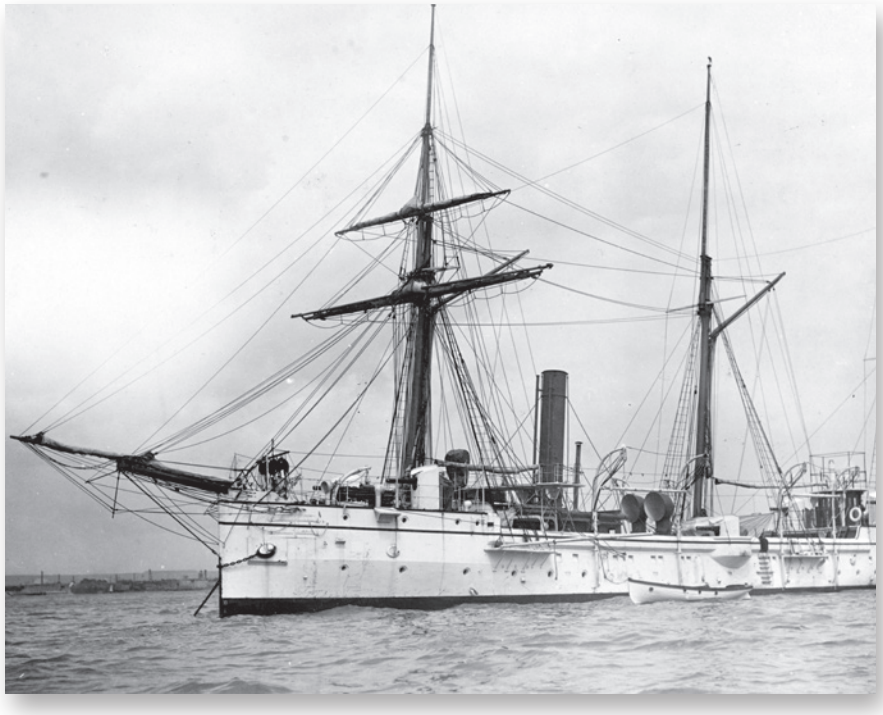
BRITISH GUNBOATS OF VICTORIA'S EMPIRE

ANGUS KONSTAM

ILLUSTRATED BY PAUL WRIGHT

NEW VANGUARD 304

BRITISH GUNBOATS OF VICTORIA'S EMPIRE



ANGUS KONSTAM ILLUSTRATED BY PAUL WRIGHT

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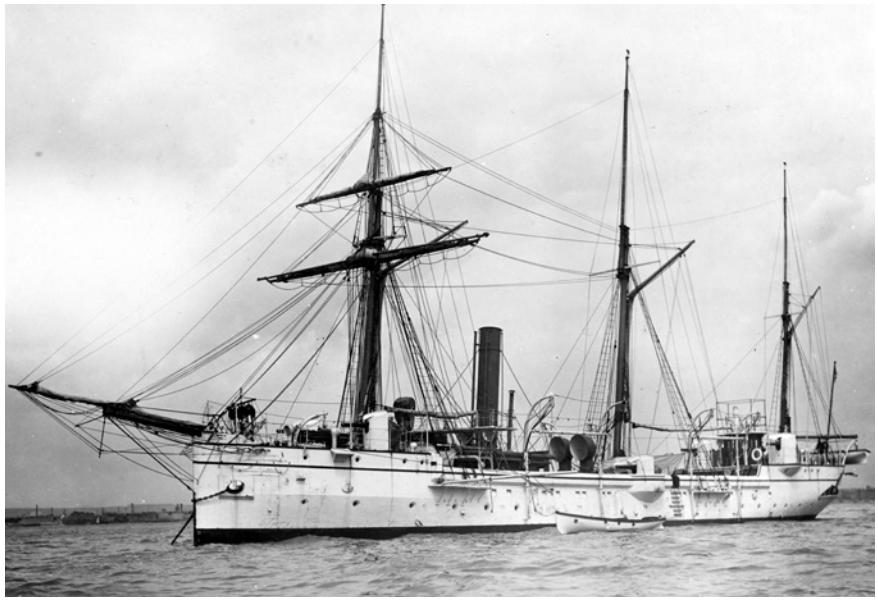
BRITISH GUNBOATS OF VICTORIA'S EMPIRE

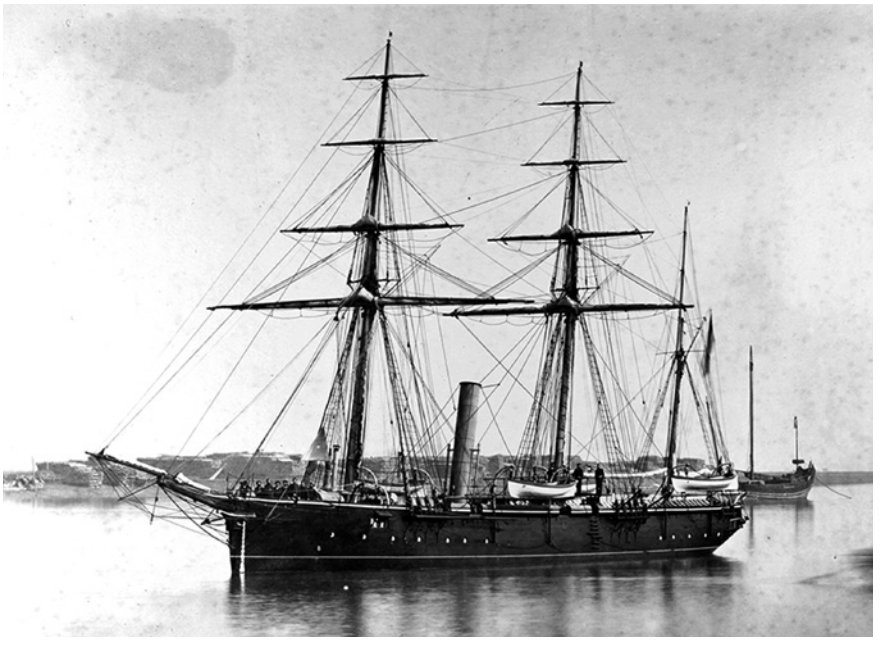
INTRODUCTION

From the mid-1850s, for over half a century, the small steam-armed gunboats of the Royal Navy were a vital cornerstone of British foreign policy. It fell to them to protect British overseas interests, to safeguard both trade and colonies, and to serve as the world's policemen. They were the perfect instrument to uphold the *Pax Britannica*, based on a subtle use of naval power and the ability to reach almost every corner of Britain's far-flung empire. In recent years the phrase 'gunboat diplomacy' has been used to describe the crude use of naval power to bully or coerce a weaker nation. During the reign of Queen Victoria, the use of gunboats was viewed very differently. They were there to protect British overseas trade, to safeguard British interests, and to discourage those who threatened to damage either.

For much of this period the British Empire was a less rigid entity than it became towards the end of Queen Victoria's reign. Apart from the formal colonies and dominions like Australia, Canada and New Zealand, the empire



HMS *Plover* launched in 1888 is typical of the British gunboats of the late Victorian era. She and her five sisters of the Pigmy class were composite-built, with an iron frame and a wooden-planked hull, and were armed with four modern breech-loading quick-firers.

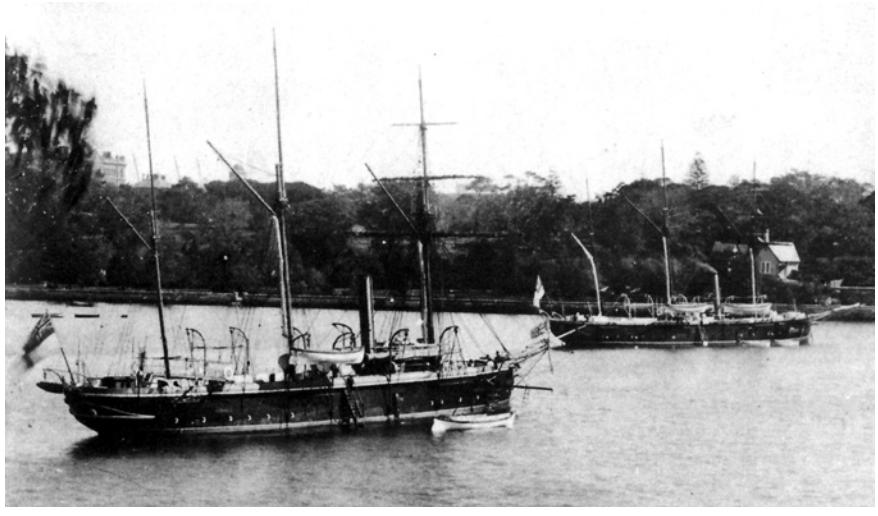


The Beacon class of composite-built gunvessels were designed for service in Chinese waters, but proved so useful they served on most foreign stations during the 1870s and 1880s. One of them was HMS *Midge*, which was used to hunt pirates off the Malay Peninsula during the early 1870s before being redeployed to East Africa to subdue the slave trade there. She was finally paid off in 1891.

was bound together more by trading agreements, shipping and investment than formal possession. Although gunboats couldn't project British interest far inland, their ability to do so close inshore or along navigable rivers meant there were relatively few areas where British influence couldn't be felt. All of this was achieved for a relatively low outlay in terms of men, resources and money, which appealed to a succession of parsimonious governments. From the end of the Crimean War in 1856 until 1904, when the gunboat era came to an abrupt end, these little warships roamed the world, playing their part in the maintenance of the *Pax Britannica*.

The first of these screw-propelled gunboats were built during the Crimean War, and saw action during the conflict. During the Second Opium War (1856–60) they demonstrated their worth on the far side of the world. However, these early gunboats hadn't been designed for their new global role so a new breed of gunboats emerged, which were purpose-built to serve in this role. They fulfilled a myriad of tasks, from hunting down pirates on the coasts and rivers of South-East Asia and quelling the slave trade on the West African coast, to putting down risings which threatened British Imperial interests.

The first purpose-built gunboats were wooden-hulled vessels, but by the end of the 1860s composite-hulled ones had made their first appearance, designed for service in Chinese waters. These soon became the norm, at least until the end of the century when the first all-steel gunboats entered service. By then, though, their time had all but passed. The real heyday of the Victorian gunboat was the quarter of a century between 1860 and 1885, then need for them waned, as the British Admiralty favoured larger cruisers to fulfil the same role. The axe finally fell in 1904, when Admiral 'Jackie' Fisher brought the era of the gunboat to an end to help fund the new age of the dreadnought. However, the romance of the Victorian gunboat era lived on as a time when a small warship and a flag was seemingly all it took to protect the interests of the British Empire.



HMS *Raven*, a composite-built Banterer-class gunboat, pictured in company with another ship of her class shortly after her commissioning in Sheerness in 1883. She spent most of the decade on the Australian station, which was based in Sydney. She was finally paid off in 1901.

DESIGN, DEVELOPMENT AND FUNCTION

The gunboats described in this book represent the perfect amalgamation of strategic need and Victorian technology. Vessels of this kind existed before the advent of steam, most notably during the Napoleonic Wars when oared gunboats armed with one or more powerful guns preyed on enemy shipping in key choke points like the approaches to friendly harbours, or narrow waterways like the Sound (*Øresund*) between Denmark and Sweden. They could be deadly adversaries, especially when there wasn't enough wind to keep out of their way. After the fall of Napoleon, larger maritime powers abandoned gunboats, although they remained in vogue in the Baltic and in the Far East. From the mid-1840s onwards, the development of the screw propeller opened up fresh possibilities and shallow-draught steam-powered craft armed with large guns could potentially pose a threat that hadn't existed before to ports and naval bases.

So, gunboats were reborn as creatures of the steam age and, in effect, they began as a craft similar to the bomb vessel – a warship designed for a specific purpose. Even then, it wasn't until the 1850s, when both naval ordnance and screw propulsion became more reliable, that their concept was seriously entertained. It was the British who pioneered these ideas, as a means of threatening French naval bases such as Cherbourg or Brest in time of war. A few experimental craft were built to demonstrate the potential of the idea but it took a war with Russia to create a need for such craft, and to lead to the true birth of the steam-powered gunboat. It wasn't until the effectiveness of these new craft was demonstrated during the Crimean War, and vital lessons were learned, that the gunboat would evolve into a warship that fulfilled more than one role.

The Crimean gunboats

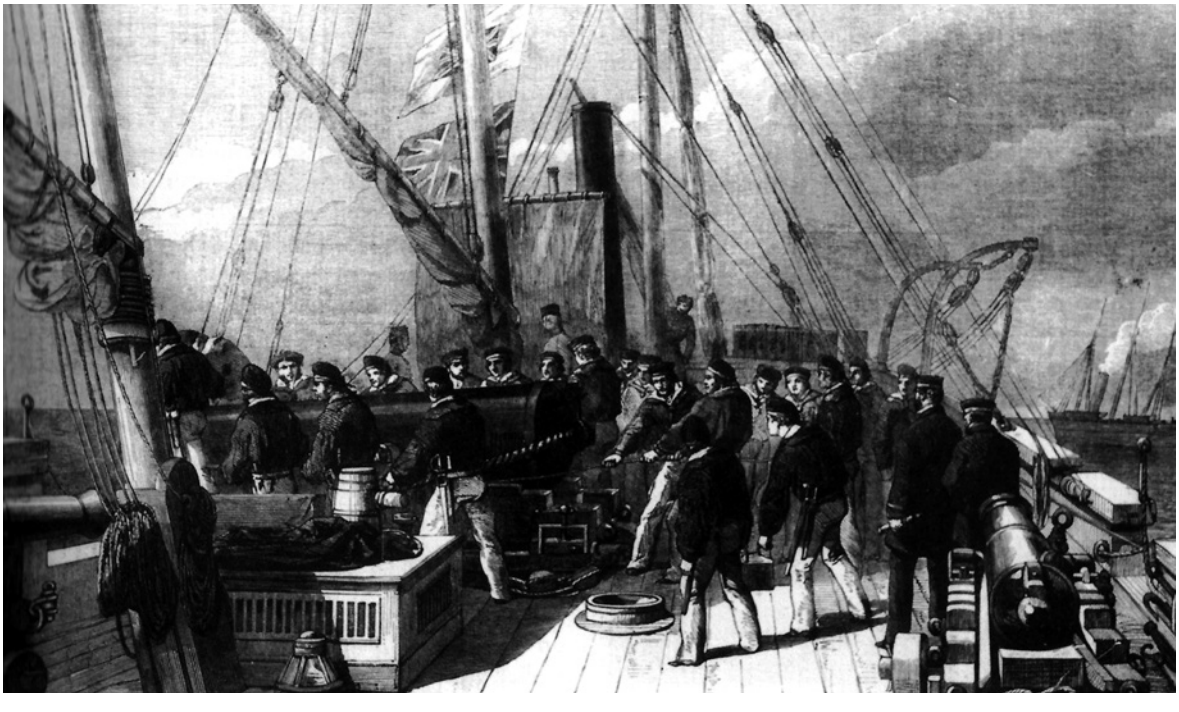
During the early 1850s, large guns like the Royal Navy's 68-pounder muzzle-loader had an effective range of 6,500yds. This, if mounted on a steam-powered warship, could potentially bombard a port like Cherbourg with relative impunity. Because of this, plans were developed for a type of small screw-propelled vessel that could carry this size of gun. In October

HMS *Magnet*, an Albacore-class gunboat, pictured on the River Thames during the late 1850s. The Albacores, produced *en masse* during 1855 and 1856, were direct copies of the earlier Dapper class. Although described as Crimean War gunboats, none of them were ready in time to see service during the conflict.

1853, when Turkey and Russia went to war, Britain and France were bound to the Turks by shared strategic interests in the region, and so formed what became an anti-Russian coalition. It was clear that a Russian war would require gaining naval control of the Baltic and Black seas. Although the Royal Navy had the might to dominate these seas, this sort of small steam-powered craft would be needed to subdue the heavily fortified Russian naval bases there. At the time there were no suitable vessels in the fleet. That, though, was hurriedly rectified.

The Navy was in the process of replacing its old sail-powered warships with steam-powered ones. By 1853 it already had a number of wooden-hulled steam-powered sloops for inshore operations, most of which were powered by paddlewheels. These, however, were too large and vulnerable for what was required, so designers came up with two types of smaller vessel

A gun crew at practice on board the Dapper-class gunboat HMS *Starling* during the mid-1850s. This weapon is a 68-pounder muzzle-loading smoothbore gun, which was the largest gun carried on board a Crimean War-era gunboat.



that relied on screw propulsion. The majority of them were small shallow-draughted gunboats. The second, less numerous group was made up of slightly larger warships, which were called gunvessels.

Gleaner class (wooden-hulled)	
Ships in class (6):	*Badger, Gleaner, Pelter, Pincher, Ruby, Snapper*
Dates	Launched 1854. Decommissioned 1864–68
Displacement	264 tons
Dimensions	100ft overall, 22ft beam, 7ft 10in. draught
Armament	One 64-pdr SML, one 32-pdr SML, two 24-pdr howitzers
Propulsion	Reciprocating engine (60hp), single screw. Max speed: 8 knots
Complement	36

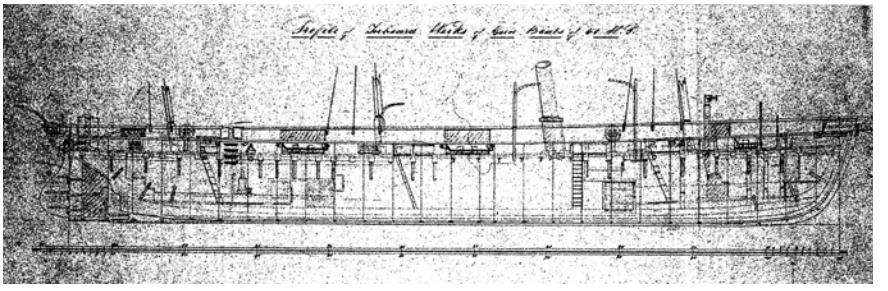
Dapper class (wooden-hulled)	
Ships in class (20)	*Biter, Boxer, Clinker, Cracker, Dapper, Fancy, Grinder, Hind, Jackdaw, Jasper, Lark, Magpie, Redwing, Skylark, Snap, Starling, Stork, Swinger, Thistle, Weazel*
Dates	Launched 1855. Fate: *Jasper* wrecked July 1855, remainder decommissioned 1864–85
Displacement	284 tons
Dimensions	106ft overall, 22ft beam, 6ft 9in. draught
Armament	One 64-pdr SML, two 24-pdr howitzers
Propulsion	Reciprocating engine (60hp), single screw. Max speed: 8 knots
Complement	36

When the Crimean War began, a handful of Arrow-class screw-powered steamers were entering service. They carried the 68-pounder, but their racy lines made them less than ideal gunboats. They were later re-classed as gunvessels – effectively large ocean-going gunboats – and proved ideally suited as patrol ships. However, the gunboats the Navy needed to subdue Russian ports like Helsingfors (Helsinki), Kronstadt or Sevastopol would be much smaller, designed purely to fulfil that very specific task.

In all, 156 gunboats would be built, divided into four classes. Strangely, the Navy classified them by engine size. Most were 60hp (horsepower) gunboats, powered by reciprocating engines driving a single screw. Later shallow-draughted classes were either categorised as 20hp or 40hp craft. Unlike these gunboats, the Arrows and later gunvessels were large and seaworthy enough to carry out other tasks, rather than just naval bombardment missions.

In June 1854, the Admiralty ordered its first purpose-built gunboats. These and those that followed were just over a 100ft long and had a displacement of between 260 to 285 tons. With less than 10ft between the upper deck and the keel, and half the lower deck taken up with machinery, there wasn't a lot of space left for the crew. This, together with their very limited coal bunkerage, made them unsuitable for ocean voyages. Essentially they were primarily designed for short-range operations, and for the single purpose of naval bombardment.

The first of these, the six vessels of the Gleaner class, were small bluff-bowed craft, powered by both sails and engine. They carried two smoothbore guns, a 32-pounder and a 68-pounder. Both of these guns were mounted centrally, but could be moved out to either beam where they fired from hinged gunports. The larger guns were bolstered by a pair of small howitzers. The main feature of the Gleaner design was that the vessels could float in just



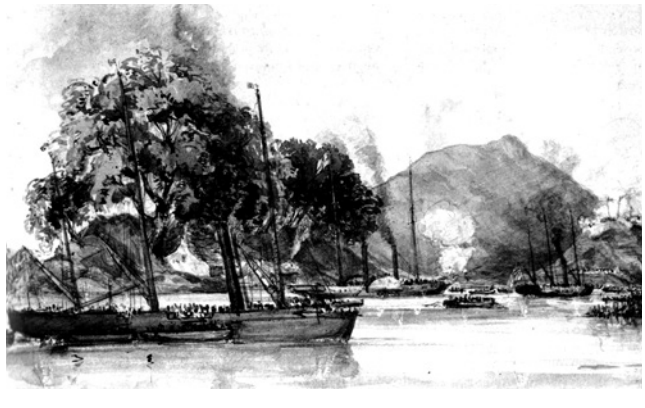
The original builder's plans of an Albacore-class gunboat. Ordered in large numbers during the Crimean War, these cramped little ships went on to form the first generation of Victorian gunboats sent to foreign stations, despite their lack of suitability for such a role.

6½ft of water, allowing them to operate in the unguarded shallows close to Russia's fortified naval bases.

By the time the Gleaners were launched, the Admiralty realised it needed more of them. So, a further 20 slightly larger versions were ordered. These became the Dapper class, which was launched in 1855. Some of them would see action the following year. This, though, was just the start. Between May and July 1855, the Admiralty ordered 46 more gunboats – these would be the first of the Albacore class – direct copies of the Dappers. That autumn, a further 52 were ordered. None of these new 60hp gunboats, however, would be finished before the end of the war.

Albacore class (wooden-hulled)	
Ships in class (98)	*Albacore, Amelia, Banterer, Beacon, Beaver, Blazer, Bouncer, Brave, Brazen, Bullfinch, Bullfrog, Bustard, Camel, Carnation, Caroline, Charger, Charon, Cherokee, Cochin, Cockchafer, Confounder, Crocus, Delight, Dove, Earnest, Erne, Escort, Fervent, Firm, Flamer, Fly, Foam, Forester, Forward, Goldfinch, Goshawk, Grappler, Grasshopper, Griper, Growler, Hardy, Hasty, Haughty, Havock, Herring, Highlander, Hyaena, Insolent, Julia, Leveret, Lively, Louisa, Mackerel, Magnet, Manly, Mastiff, Mayflower, Mistletoe, Nightingale, Opossum, Parthian, Partridge, Peacock, Pheasant, Pickle, Plover, Porpoise, Primrose, Procris, Prompt, Quail, Rainbow, Raven, Redbreast, Ripple, Rocket, Rose, Sandfly, Savage, Seagull, Sepoy, Shamrock, Sheldrake, Skipjack, Spanker, Spey, Spider, Staunch, Surly, Swan, Thrasher, Tickler, Tilbury, Traveller, Violet, Wave, Whiting, Wolf*
Dates	Launched 1855–56. Fate: *Plover* sunk in action June 1859, *Lively* wrecked December 1863, remainder decommissioned 1861–79 apart from *Earnest, Thrasher, Wave, Whiting* (all decommissioned 1881–85)
Displacement	284 tons
Dimensions	106ft overall, 22ft beam, 6ft 6in. draught
Armament	One 68-pdr SML, one 32-pdr SML, two 24-pdr howitzers
Propulsion	Reciprocating engine (60hp), single screw. Max speed: 7½ knots
Complement	40

In August 1855, during the bombardment of Sveaborg fortress protecting Helsingfors (now Helsinki), Rear Admiral Dundas had 16 gunboats at his disposal, and they performed their job to perfection. Over two days, together with Dundas' mortar vessels, they badly damaged the fortress and sank 32 Russian ships sheltering beneath its guns. It was an impressive vindication of the new type of vessel. Even so, despite the success of this handful of vessels, most of Britain's growing gunboat fleet would never see action.



In June 1857, a small force of Royal Navy gunboats and a paddle steamer attacked a Chinese fleet of junks in Fatshan Creek near Canton. Here, boats are being sent by the Albacore-class gunboat HMS *Bustard* to join an attack on a Chinese fort.

In May 1855, the Admiralty ordered a new group of extremely shallow-draughted craft. The 20 small gunboats of the Cheerful class would draw less than 4ft 6in of water, yet each mounted a pair of 32-pounder smoothbores. While they were still on the stocks they were followed by a dozen improved versions, which formed the Clown class. These were slightly longer and better-armed, and carried a more powerful engine, but drew just 4ft of water. Although never used against the Russians, these shallow-draught gunboats would prove useful during operations in China during 1859–60.

Cheerful class (wooden-hulled)	
Ships in class (20)	*Angler, Ant, Blossom, Cheerful, Chub, Daisy, Decoy, Dwarf, Fidget, Flirt, Gadfly, Garland, Gnat, Midge, Nettle, Onyx, Pert, Pet, Rambler, Tiny*
Dates	Launched 1856. Fate: decommissioned 1863–69
Displacement	258 tons
Dimensions	100ft overall, 21ft beam, 4ft 6in. draught
Armament	Two 32-pdr SMLs
Propulsion	Reciprocating engine (20hp), single screw. Max speed: 8 knots
Complement	36

Clown class (wooden-hulled)	
Ships in class (12)	*Clown, Drake, Fenella, Garnet, Handy, Hunter, Janus, Kestrel, Ready, Thrush, Watchful, Woodcock*
Dates	Launched 1856. Fate: *Hunter* never completed, remainder decommissioned 1864–71
Displacement	284 tons
Dimensions	110ft overall, 22ft beam, 4ft draught
Armament	One 68-pdr SML, one 32-pdr SM
Propulsion	Reciprocating engine (40hp), single screw. Max speed: 8 knots
Complement	30

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1. HMS *Plover*, Albacore-class gunboat *c.*1859

The first steam gunboats to enter British service were designed during the Crimean War. The first of these formed the Dapper class, but the Admiralty decided it needed more of them, so, in 1855, a new batch of almost a hundred gunboats was laid down. These Albacore-class vessels were direct copies of the Dappers, and while many never saw service, a handful of them were eventually sent to China in time to take part in the Second Opium War and its aftermath. One of these was HMS *Plover*, which on 25 June 1859 took part in a naval attack on the Taku forts, guarding the mouth of the Pei-ho (now Hai) River. As the temporary flagship of Rear-Admiral Hope, she led the way, but after failing to break the boom defences blocking the river, she was hit repeatedly by close-range fire from the forts. She fell away and ran aground on a mudbank, where she eventually sank. Although wounded, unlike many of the gunboat's crew Hope survived the sinking, as did midshipman Fisher – the future First Sea Lord. This shows *Plover* as she appeared that morning, during the disastrous attack.

2. HMS *Cherub*, Britomart-class gunboat *c.*1866

The Britomarts were probably the most successful of the Crimean War era gunboats, even though they were launched half a decade after the end of the conflict. They followed the same design as the wartime Dapper class, although they had been 'stretched' by 20ft and had a slightly more powerful armament. Three of them, *Britomart, Cherub* and *Heron*, were sent to Canada to patrol the Great Lakes. At the time, Canada was under threat from the Fenian Brotherhood, an Irish-American group who sought to force a British withdrawal from Ireland by carrying out raids on Canadian soil. HMS *Cherub* was charged with patrolling Lake Huron, but was unable to stop a large Fenian force crossing the Niagara River, passively watched by a patrolling American gunboat. Although the raiders were intercepted and defeated, *Cherub* and her sister ships continued to patrol the Great Lakes as the threat posed by the brotherhood continued until the early 1870s. *Cherub* spent most of her career in Canadian waters but was relegated to secondary duties in 1877. She was finally decommissioned in 1890.

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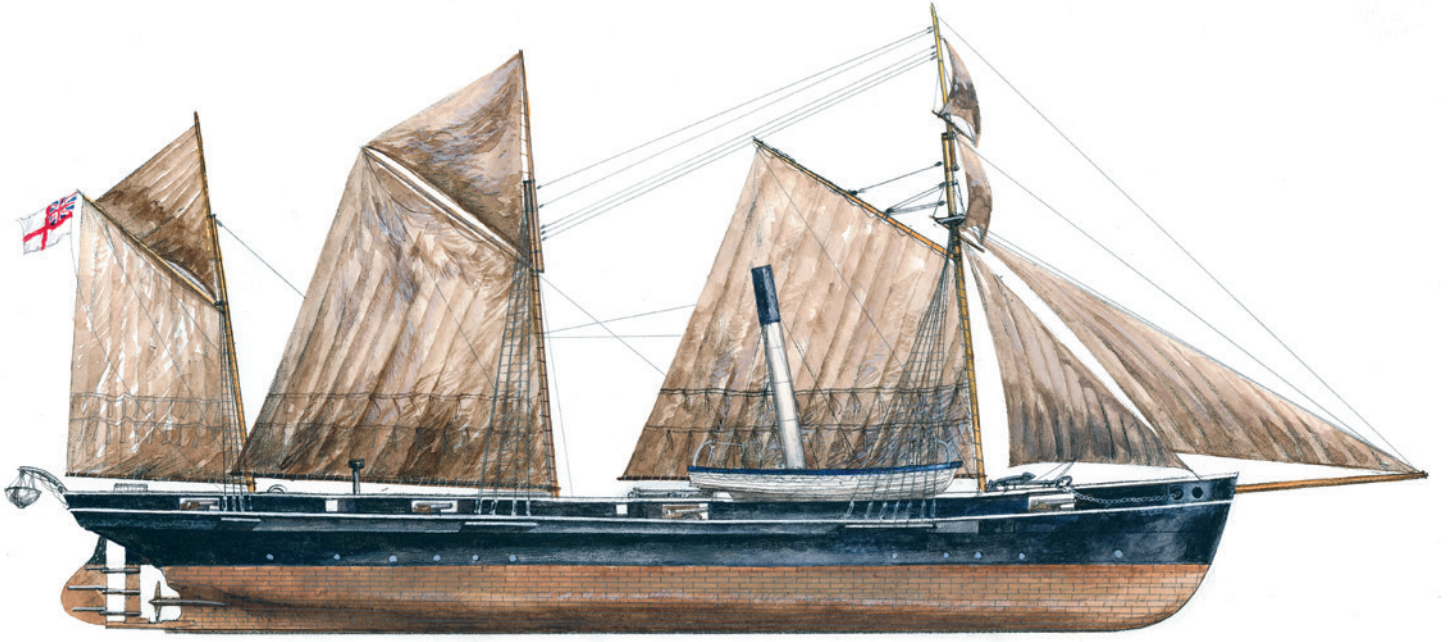
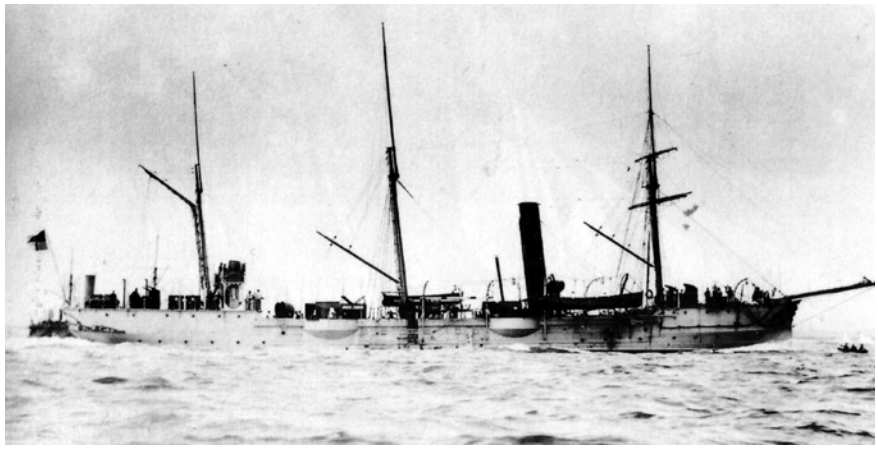




The Nymphe-class sloop *Buzzard*, launched in 1887 was well-armed, with eight 5-inch breech-loading (BL) guns mounted in sponsons amidship or in pairs on her forecastle and poop deck. This made the Nymphes some of the best-armed warships in the gunboat fleet.

After the war most of these 156 gunboats were laid up in purpose-built boat sheds on Haslar Creek near Portsmouth and mothballed until they were needed. Few ever were. One reason for this was their condition. Due to wartime shortages, a quarter of these wartime gunboats were built with green, unseasoned timber. Several of them literally rotted on the stocks. By the end of 1856 only a handful of them remained in service.

Strangely, this wasn't the end of them. In 1859, a possibility of war with France prompted the Admiralty to order ten improved versions of the Dapper class from private yards. The first of these was launched the following summer. By then the war scare had passed, but construction continued anyway. These became the Britomart class of 60hp gunboats, which proved to be the last and most successful of the Crimean gunboat group. In 1861, once these first craft had proved their worth, the Admiralty ordered another ten from Portsmouth Royal Dockyard, but in the end only six of them would be built, the remainder being cancelled in 1863.

Britomart class (wooden-hulled)	
Ships in class (16)	*Britomart, Bruizer, Cherub, Cockatrice, Cromer, Doterel, Heron, Linnet, Minstrel, Netley, Orwell, Pigeon, Speedy, Trinculo, Tyrian, Wizard.* Four more (*Bramble, Crown, Protector* and *Danube)* cancelled before launch, 1863
Dates	Launched 1860–67. Fate: *Trinculo* wrecked September 1870, remainder decommissioned 1871–86 apart from *Britomart*, *Cherub, Speedy* and *Tyrian* (all decommissioned 1889–92)
Displacement	330 tons
Dimensions	120ft overall, 22ft beam, 8ft draught
Armament	Two 68-pdr SMLs or two 68-pdr RMLs
Propulsion	Reciprocating engine (60hp), single screw. Max speed: 9 knots
Complement	40
Note: Although built after the Crimean War, these were based on the Dapper class, and so are grouped among their Crimean War predecessors.	

One of the criticisms of the earlier wartime gunboats was that they performed poorly under sail. So a hoisting screw was fitted in the Britomart class, which could be raised to improve the vessel's sailing performance. The result was a reliable, well-armed and seaworthy small gunboat. Despite their small size, the Britomarts would see service around the world and would remain in active service well into the 1870s. One region in which they proved

The wooden-hulled Albacore-class gunboat HMS *Magnet* was built in Sunderland, but entered service too late to serve in the Crimean War. Instead she was sent overseas, spending time on both the China Station and the West Indies before returning to Britain to be paid off. She was finally broken up in 1874.

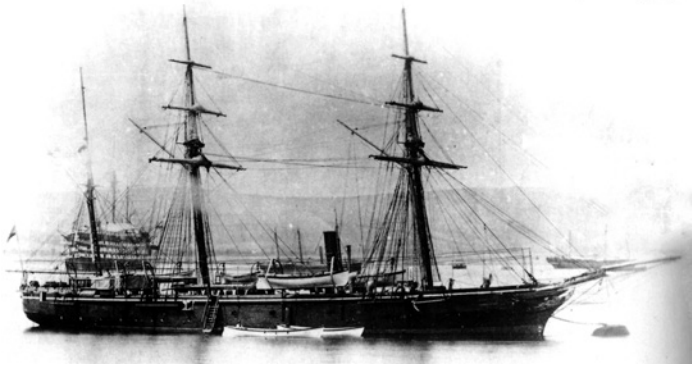
especially useful was Canada, where four of them formed a permanent Great Lakes force. Although there was a growing trend to rely on larger and more powerful gunvessels, the Navy clearly still had a need for its smaller shallower-draughted gunboats.

The gunvessels

In a way, the Crimean War gunboats represented an evolutionary dead end. Instead, the true origins of the fully-fledged Victorian gunboat were found in the larger gunvessels built during the Crimean War. The first of these were the Arrow class, built in 1854. Their design had been based on the iron-hulled royal yacht tender *Fairy*, completed nine years before, and were basically larger wooden-hulled versions of her. They were three-masted, with a barque rig, but also powered by a 160hp engine, giving them a maximum speed of 11 knots. Unlike the smaller gunboats, they carried two oval-bored 68-pounder Lancaster rifled muzzle-loading (RML) guns. This gave the Arrows an impressive degree of firepower. All six took part in the naval campaigns of 1854, even though their narrow hulls made them unstable gun platforms compared to the smaller Crimean gunboats.

The six Arrow-class gunboats proved sufficiently useful in the Crimea for the Admiralty to order another two classes of similar vessels. These would be the Navy's first purpose-built gunvessels. The first six ordered between April and July 1855 would form the Intrepid class. These were much larger than the Arrows, with more powerful engines, two funnels, and displaced over 1,000 tons apiece. Like the Arrows, they carried three masts, and so could operate under sail or steam.

HMS *Arab*, the name ship of a class of two composite-built gunvessels. She carried her three guns on her centreline – a single 7-inch RML amidships and two 64-pounder RMLs mounted fore and aft. In 1879 her aft RML was replaced by three 20-pounder RBLs.



This prompted the ordering of another version, capable of drawing less water. These would become the 14-strong Vigilant class. They were still lighter and shorter than the Intrepids, and drew just 8ft of water, making them ideal for inshore work. Unfortunately, all these classes of gunvessels would have relatively short careers, and most Intrepids would

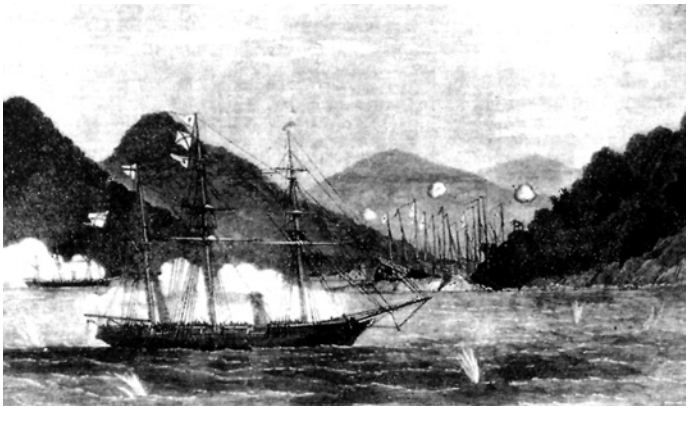
be decommissioned during the mid-1860s, with the last Vigilant following in 1872. One of the Intrepids, *Victor*, was sold in 1863, and became the Confederate raider CSS *Rappahannock*.

Arrow class (wooden-hulled) **Classed as dispatch vessels until 1856, then 2nd-class gunvessels**	
Ships in class (6)	*Arrow, Beagle, Lynx, Snake, Viper, Wrangler*
Dates	Launched 1854. Fate: decommissioned 1862–66
Displacement	582 tons
Dimensions	160ft overall, 25ft 4in. beam, 12ft 3in. draught
Armament	Two 68-pdr Lancaster RMLs
Propulsion	Reciprocating engine (160hp), single screw. Max speed: 11 knots
Complement	65

Intrepid class (wooden-hulled) **1st-class gunvessels**	
Ships in class (6)	*Flying Fish, Intrepid, Nimrod, Pioneer, Roebuck, Victor*
Dates	Launched 1855–56. Fate: decommissioned 1863–66
Displacement	1,042 tons
Dimensions	200ft overall, 30ft 4in. beam, 10ft 6in. draught
Armament	One 110-pdr RBL, one 60-pdr RBL, four 20-pdr RBLs
Propulsion	Reciprocating engine (350hp), single screw. Max speed: 11 knots
Complement	100

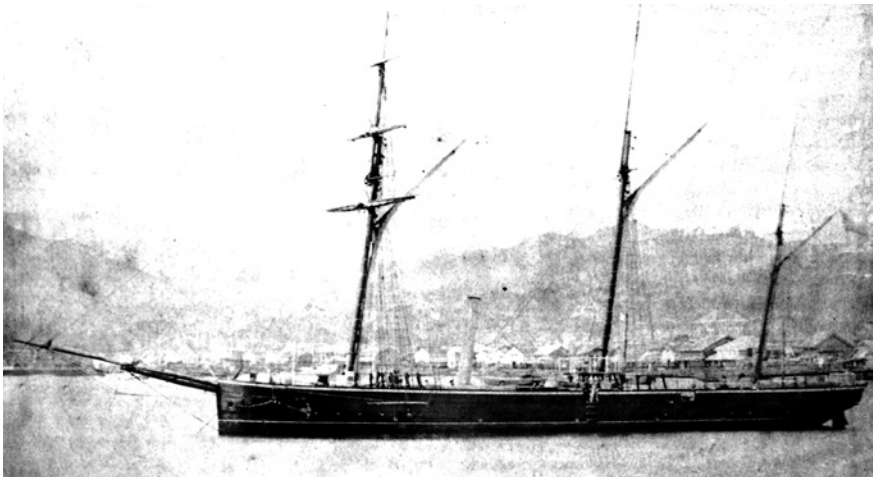
Vigilant class (wooden-hulled) **2nd-class gunvessels**	
Ships in class (14)	*Alacrity, Assurance, Coquette, Cormorant, Foxhound, Lapwing, Mohawk, Osprey, Renard, Sparrowhawk, Surprise, Ringdove, Vigilant, Wanderer*
Dates	Launched 1855–56. Fate: *Cormorant* sunk in action June 1859, remainder decommissioned 1862–72
Displacement	818 tons
Dimensions	181ft overall, 28ft 6in. beam, 8ft draught
Armament	One 110-pdr RBL, one 68-pdr SML, two 20-pdr RBLs
Propulsion	Reciprocating engine (200hp), single screw. Max speed: 11 knots
Complement	80

The Vigilant class gunvessel HMS *Osprey* in action against Chinese pirate junks in Sanya Bay on Hainan island, July 1866. During this operation she and the Albacore-class gunboat HMS *Opossum* destroyed over a hundred junks. *Osprey* was wrecked off the South African coast the following year.



None of these gunvessels was classified by engine size, like the Crimean gunboats. Instead, from 1856 on, the larger Intrepids were re-rated as 1st-class gunboats, while the Vigilants and Arrows became 2nd-class ones. A few of these would see action during the Second Opium War (1856–60), when they proved that, despite their relatively deep draught, they could fulfil a wider range of roles than the smaller Crimean gunboats.

During early 1856, plans were drawn up for an amalgam of gunboat and gunvessel, based on the Albacores, but longer, and more spacious. The result was the Algerine-class gunboat, six of which entered service in 1858.



HMS *Leven*, one of six Algerine-class gunboats built during the late 1850s. During the 1860s she was used to hunt pirates in the waters off the Malay peninsula, but by 1867 she was sent home and paid off, as her hull was in poor condition. She was patched up and returned to Singapore, where she was sold off in 1873.

Almost immediately, four of them would be sent to China to reinforce the hard-pressed British naval force there. These were wooden-hulled and powered by an 80hp engine driving a single hoistable screw. Their three masts carried a schooner rig, and the ships handled well under sail. However, what really set them apart from the Crimean gunboats was their versatility. Their larger, better-designed hull made them good sea boats, while their increased displacement meant there was more room for accommodation, stores and coal. This made the Algerines ideal for lengthy deployments overseas.

In 1859, the Admiralty re-classed the Algerines as gunvessels. The two terms, though, continued to be used throughout the era, while others like 'sloop' would creep in as well to describe vessels that were larger than the average gunvessel. The role of these craft, though, remained the same, whatever their name.

During the early 1860s the success of these gunvessels during the Second Opium War encouraged the Admiralty to build more. With the remaining Crimean War gunboats and gunvessels nearing the end of their useful lives, it was clear that these had to be replaced to fulfil the need for gunboats and gunvessels to serve in a global policing role. The first of these, the Philomel class of 20 wooden-hulled gunvessels ordered in mid-1859, was little more than an enlarged version of the Algerine class, with similar engines but with hulls that were 20ft longer. This improved their seaworthiness, however they remained underpowered, and their deep draught limited their usefulness. Eight were scrapped within a decade, but others remained in service for up to 20 years.

Philomel class (wooden-hulled)	
Ships in class (20)	*Cygnet, Dart, Espoir, Griffon, Jaseur, Landrail, Lee, Mullet, Newport, Nimble, Pandora, Penguin, Philomel, Plover, Ranger, Snipe, Sparrow, Speedwell, Steady, Torch*
Dates	Launched, 1859–61. Fate: *Griffon* wrecked 1866, remainder decommissioned 1865–81 apart from *Dart*, which was renamed in 1882 and sold in 1884. *Newport* completed as survey vessel 1868. Six more were ordered but cancelled in 1863
Displacement	570 tons
Dimensions	145ft overall, 25ft 4in. beam, 12ft draught
Armament	One 68-pdr SML, two 24-pdr ML howitzers, two 20-pdr RBLs
Propulsion	Reciprocating engine (80hp), single screw. Max speed: 9 knots
Complement	60

In late 1859, the Cormorant class was ordered in an attempt to produce a 1st-class gunvessel with twice the firepower of the Crimean War gunboat. Nine of them were built, and with their powerful armament – they carried the new Armstrong rifled breech-loader – they resembled the older gunvessels of the Intrepid class. Unfortunately they had a deep draught and a slow speed, and so, while useful, they lasted less than a decade in active service. The Cormorants were effectively the last class in an evolutionary line stretching back to the Arrows of 1854. There would now be a pause in gunboat and gunvessel production for a few years, as the Admiralty was preoccupied with building a fleet of ironclads to counter the threat posed by the appearance of armoured warships in the French fleet. In the mid-1860s, as the last Crimean gunboats and gunvessels were either scrapped or retired from active service, the Admiralty began to consider what kind of warships should replace them.

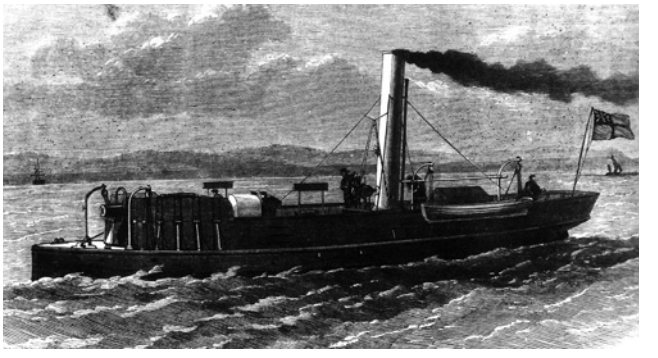
Cormorant class (wooden-hulled)	
Ships in class (9)	*Cormorant, Eclipse, Lily, Myrmidon, Nassau, Racehorse, Serpent, Star, Sylvia*
Date	Launched: 1860–67. Fate: *Racehorse* wrecked November 1864, remainder decommissioned 1867–77
Displacement	877 tons
Dimensions	185ft overall, 28ft 22in. beam, 12ft draught
Armament	One 110-pdr RBL, one 68-pdr SML, two 20-pdr RBLs
Propulsion	Reciprocating engine (200hp), single screw. Max speed: 10 knots
Complement	90

From wood to iron

This lull in gunvessel construction lasted until the mid-1860s. Then in 1864, the Plover class was ordered. These formed the first of four classes of ocean-going gunvessels, all of which were much more robust and better-armed than the Crimean War versions. The Plovers were wooden-hulled but fitted with iron cross-beams designed especially to carry the weight of the powerful 7-inch (6.5-ton) RML gun. It was mounted on the centreline, between the funnel and mainmast, and like earlier guns it could be traversed onto either beam. These gunvessels also carried a pair of 40-pounder Armstrong RBLs, mounted on the centreline at the bow and stern, but able to traverse to either beam. In the mid-1860s though, all but *Bittern, Lapwing* and *Ringdove* had theirs replaced by a pair of 64-pounder RMLs. This gave them the firepower of the typical steam-powered sloop in the Navy. This development marked the beginning of a blurring of the definitions of these two types of warship.

Plover class (wooden-hulled)	
Ships in class (12)	*Bittern, Bullfinch, Curlew, Lapwing, Magpie, Philomel, Plover, Ringdove , Seagull, Swallow, Woodlark, Vulture*
Dates	Launched 1867–71. Fate: decommissioned 1882–87
Displacement	755 tons
Dimensions	170ft overall, 29ft beam, 10ft 6in. draught
Armament	One 7in. (6.5-ton) RML, two 40-pdr Armstrong RBLs
Propulsion	Two reciprocating engines (970hp), two screws. Max speed: 10 knots
Complement	90

Just as importantly, the Plovers were fitted with twin screws to make them perform better in shallow water. The Admiralty had its reservations about this, and so rather than being seen as an innovation at the time it was considered an anomaly, and the Admiralty continued to prefer single-screw systems for most subsequent gunvessels. In fact, the weight of the armament made these ships deep-draughted anyway, and so made them unsuited to the inshore or riverine work for which they had been designed. Also, the mounting of a gun at the stern meant they couldn't be fitted with lifting screws, which in turn made them perform sluggishly while under sail. They did, though, carry a telescopic funnel – the smallest ships in the Navy to do so. Thus, despite their useful armament, and their relatively long service, they were considered mediocre designs. They were also among the last wooden-hulled gunvessels or gunboats to enter service.



During the largely unfounded French invasion scare of the late 1860s, the Navy was ordered to build a fleet of small coastal gunboats. Dubbed 'flat-iron gunboats' by their many critics, these ungainly little craft were unsuited to the open sea, and so after the scare passed most were converted into tenders and harbour craft.

The reason for this was the fast-paced development of naval ordnance. A decade before, during the Crimean War, the largest naval gun was the 68-pounder smoothbore, weighing 95 hundredweight (5.32 tons). Now, while the 110-pounder (or 7-inch) Armstrong RBL weighed less, the Woolwich 7-inch 6.5-ton RML, being over a ton heavier, was pushing the limits of what a wooden-hulled ship could bear. This, more than anything else, was the reason the Royal Navy began switching to a form of composite hull construction. This could have been avoided if the Armstrong gun had been mounted instead, but in August 1863, during the bombardment of Kagoshima Bay in Japan, a number of Armstrong breech mechanisms had proved defective, and so the Navy dropped the guns from service. It would be 15 years before the breech-loading gun again found favour. Thus a way had to be found to permit small warships to mount the heavier RMLs.

The solution was to abandon traditional forms of ship construction. Traditionally, British warships had been built using seasoned timber, with a wooden planking attached to a wooden frame. Even here, though, from the early 1800s iron reinforcement had been added in the form of knees or diagonal braces to help strengthen the hull and to permit heavier guns to be carried. The Admiralty now embarked on the next step, which was to construct the entire frame of the ship from wrought iron, and then to use wood to plank and deck this metal framework. This became known as composite construction. It wasn't an innovation by this time – it was already being used in the building of merchant ships, as it was cheaper than relying on an increasingly rare supply of seasoned timber. So, in 1866, when the Admiralty decided it needed new gunboats and gunvessels, it decided to make them in this way.

HMS *Medina* was the namesake of an ungainly class of iron-hulled gunboats built in 1877. Essentially these were an enlarged version of the 'flat-iron' gunboat, armed with a fixed 64-pounder RML forward and two more aft. Their marked tumblehome and high forecastle and poop gave them an extremely awkward look.

Strangely, by 1866 when the Admiralty ordered the Beacon class of composite-hulled gunvessels, it already had a group of experiential gunboats nearing completion that already used this form of

construction. Designed by Rear-Admiral George Elliot, superintendent of the naval base in Portsmouth, the three ships of the Vixen class were the first and only armoured gunboats to enter British service.

Vixen class (armoured gunboats. *Vixen, Waterwitch*: composite-hulled, *Viper*: iron-hulled)	
Ships in class (3)	*Vixen, Viper, Waterwitch*
Dates	Launched 1865–66. Fate: Reduced to harbour service 1870–71, decommissioned 1890–96
Displacement	1,230 tons (*Waterwitch*: 1,280 tons)
Dimensions	160ft overall, 32ft–32ft 5in. beam, 10–12ft draught
Armament	Two 7in. (6.5-ton) RML, two 20-pdr RBLs
Armour	4½in. iron on 10in. wooden backing
Propulsion	*Vixen*, *Viper*: Two reciprocating engines (970hp), two screws. Max speed: 9¼ knots. *Waterwitch*: Ruthven turbine, water jet propulsion. Max speed: 5–6 knots
Complement	80

Being experimental, all three ships in the class were unique. While *Vixen* and *Waterwitch* were built using composite construction, their sister *Viper* was built from iron. All three though had a wooden outer hull, 10in thick, which then served as a backing for another 4½in of iron plate. Then, while *Vixen* and *Viper* were powered conventionally, albeit with twin screws, *Waterwitch* was used as a testbed for the Ruthven hydraulic traction engine, which powered a bulky water jet system rather than a propeller screw. In trials none of these three ships exceeded 9½ knots, and they were considered unsuitable for use on the open sea. Within four years all three were consigned to harbour duties, being thought inappropriate for anything else.

Far more successful was the Beacon class of 18 composite-hulled gunvessels, designed by the gifted Chief Constructor Edward Reed. They were intended for service in Chinese water and rivers, where shallow draught was important. Despite being busy designing and building Britain's new fleet of ironclads, Reed closely supervised the project, and the first nine Beacons, all built in royal dockyards, duly entered service in mid-1868. The remainder, produced in private yards, followed them up to a year later. Although they drew more water than the Admiralty would have liked and they handled poorly under sail, they were well-designed ships and useful additions to Britain's growing gunboat fleet.

Beacon class (composite-hulled)	
Ships in class (18)	*Avon, Beacon, Boxer, Cracker, Dwarf, Elk, Flirt, Fly, Gnat, Growler, Hart, Hornet, Lynx, Midge, Pert, Rocket, Teazer, Thistle*
Dates	Launched 1867–68. Fate: *Gnat* wrecked November 1868, rest decommissioned 1886–91
Displacement	603 tons
Dimensions	155ft overall, 25ft beam, 8–9ft 6in. draught
Armament	One 7in. (6.5-ton) RML, one 64-pdr RML, two 20-pdr RBLs
Propulsion	Two reciprocating engines (120hp), two screws. Max speed: 9–10 ¼ knots
Complement	80

Another interesting feature was their engines. Many of the old 60hp Crimean War gunboats had rotted away while in mothballs, but their

engines had been saved. Now, Reed re-used them to power the Beacons, with two of the engines linked to modern cylindrical boilers powering these vessels' two shafts. This parsimony appealed to the Admiralty. These gunvessels were armed with a 7-inch (6.5-ton) RML, a 64-pounder (6.3in) RML and a pair of 20-pounder breech-loaders. Their most memorable achievement, though, apart from being the first warship class in the Navy to have compound-constructed hulls, was that they remained at the heart of Britain's gunboat fleet well into the 1880s.

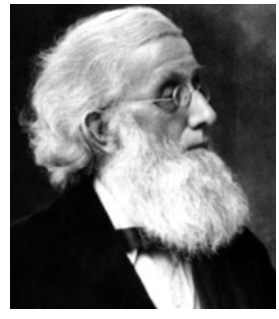
The Beacon-class gunvessel HMS *Avon*, pictured at anchor in Portsmouth soon after she was commissioned in 1868. She spent much of her career pirate hunting in South-East Asia or the East Indies, and was primarily based in Singapore.

The Beacon class established a style of gunvessel that would be repeated throughout the 1870s. The Frolic class of gunvessels ordered in 1871 were repeats of the Beacon class, save that new engines had to be fitted for them. The supplier John Penn & Sons installed new compound trunk engines, which proved hugely successful as well as more economical than the refurbished engines fitted in the Beacons. The two-ship Arab class, launched in 1874, were designed by Reed's successor Nathaniel Barnaby, and were slightly modified versions of the Beacons, with a deeper draught, Penn's compound trunk engines and with two more 64-pounders replacing the breech-loaders. This simplified the armament of their predecessors with two rather than three calibres. They also saw a return to a single screw, which remained in vogue for another decade.

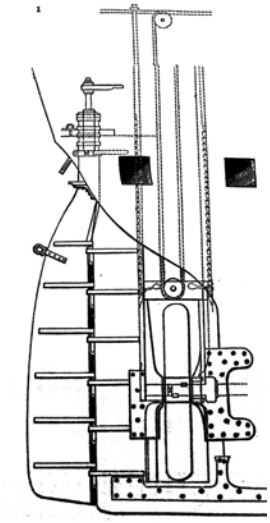
Frolic class (composite-hulled)	
Ships in class (4)	*Frolic, Kestrel, Ready, Rifleman*
Dates	Launched 1872. Fate: decommissioned 1888–92
Displacement	610 tons
Dimensions	155ft overall, 25ft beam, 9ft–9ft 6in. draught
Armament	One 7in. (6.5-ton) RML, one 64-pdr RML, two 20-pdr RBLs
Propulsion	Two reciprocating engine (100hp), two screws. Max speed: 10½–11 knots
Complement	80

Arab class (composite-hulled)	
Ships in class (2)	*Arab, Lily*
Dates	Launched 1874. Fate: *Lily* wrecked September 1889; *Arab* decommissioned same year.
Displacement	620 tons
Dimensions	150ft overall, 28ft 6in. beam, 10ft 6in. draught
Armament	One 7in. (4.5-ton) RML, two 64-pdr RMLs
Propulsion	Reciprocating engine (570 hp), single screw. Max speed: 10½ knots
Complement	90

Nathanial Barnaby (1829–1915), the Admiralty's Director of Naval Construction from 1870 to 1885. He was therefore responsible for the design and construction of a large portion of the Victorian gunboat fleet, and supervised its switch from wood to iron and then steel construction.



Between 1870 and 1875, the Admiralty had added two dozen new composite-hulled gunvessels to the fleet. At the same time, it was also building smaller composite gunboats as well. The Ariel class of nine small 60hp gunboats was ordered in 1870, and built according to Reed's design. Unlike previous



The Crimean War-era gunboats and gunvessels performed poorly under sail. To reduce drag on post-war vessels, a hoisting propeller was devised that could be lifted clear of the water when not in use. This system was used in most vessels of the gunboat fleet built between 1860 and 1880.

gunboats these were actually designed as ocean-going vessels – a rarity at a time when the British government was obsessed with coastal defence. They also mounted new compound-expansion engines, a new departure for the Navy. So too was their use of watertight bulkheads, a development that stemmed from the switch to compound construction. These proved to be successful vessels, and they remained in front-line service for more than a decade.

From that point on, with one unusual exception, the Navy's fleet of gunboats and gunvessels would be built using composite construction.

Ariel class (composite-hulled)	
Ships in class (9)	*Ariel, Coquette, Decoy, Foam, Goshawk, Merlin, Mosquito, Swinger, Zephyr*
Dates	Launched 1871–73. Fate: decommissioned 1885–1902
Displacement	430 tons (*Ariel*): 438 tons (*Zephyr*)
Dimensions	125ft overall, 22ft 6in.–23in. beam, 10ft 6in. draught
Armament	Two 64-pdr RMLs, two 20-pdr RBLs
Propulsion	Single horizontal compound engine (60hp), single screw. Max speed: 9½–10½ knots
Complement	60

Changing roles

The late 1860s and much of the 1870s have been described as a time of experimentation in terms of warship design. This was brought about by the simultaneous rapidity of technological change in ordnance, marine engineering and ship construction. It was also a time when naval strategy was in a state of flux. Initially the main impetus for this was the threat of a war with France, and a possible invasion of southern England. On land, this led to the construction of the 'Palmerston Forts', such as the ones that ringed Portsmouth. For the Navy, this manifested itself in the construction of a coastal defence fleet, which ranged from small ironclads to a flotilla of

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1. HMS *Nimble*, Philomel-class gunvessel, *c.*1875

When the 20 gunvessels of the Philomel class were ordered, the Admiralty described them as 'new-style steam schooners'. In fact, they were merely a reworking of the Algerine class of gunboats, with larger hulls and deeper draught to improve their seafaring qualities. HMS *Nimble* was built in Pembroke Royal Dockyard and completed in 1861. She was sent to the West Indies Station and remained there until 1866, where she was driven ashore by a hurricane that struck the Bahamas. She was refloated and repaired, then sent to serve on the East African Station, where from 1870 to 1874 she was involved in suppressing the slave trade. Then, in 1875, she joined the East Indies Station to hunt pirates. She was particularly active in the waters off the Malay peninsula. In 1879, she was recalled home where she was decommissioned and placed in reserve. This shows *Nimble* in her pirate-hunting heyday.

2. HMS *Beacon*, Beacon-class gunvessel, *c.*1873

The Beacon-class ships, launched in the late 1860s, were the first composite-built gunvessels to enter service with the Royal Navy. This meant that their wrought-iron frames gave them the robustness to carry a reasonably powerful armament of one 7-inch and one 64-pounder (6.2-inch) RML. Their engines were refurbished from the older Crimean War gunboats, each powering its own propeller shaft. With their three raked masts and slender funnel, these ships had a sleek, elegant appearance, and remained mainstays of the gunboat fleet for almost two decades. During this time, they served on virtually every foreign station. HMS *Beacon*, shown here – the namesake of her class – played a part in the Ashanti Campaign in West Africa of 1873–74, then also served in South American waters before being sent to the East Indies to carry out anti-slavery patrols. She ended her active career in the Mediterranean, where in 1882 she took part in the bombardment of Alexandria. She was finally decommissioned six years later. This shows her as she looked while operating off the Cape Coast in 1873.

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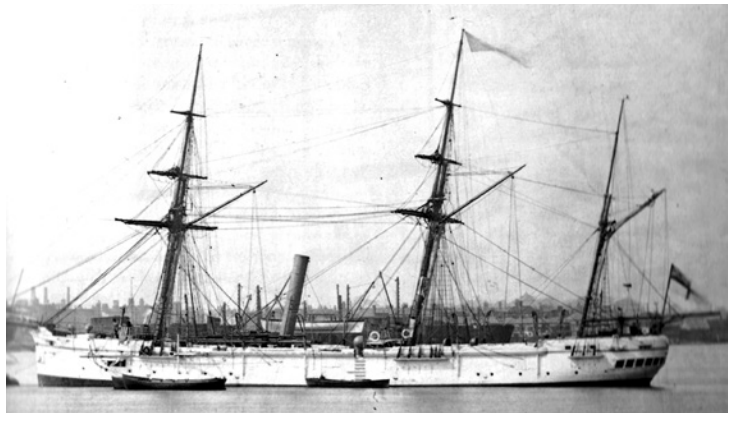
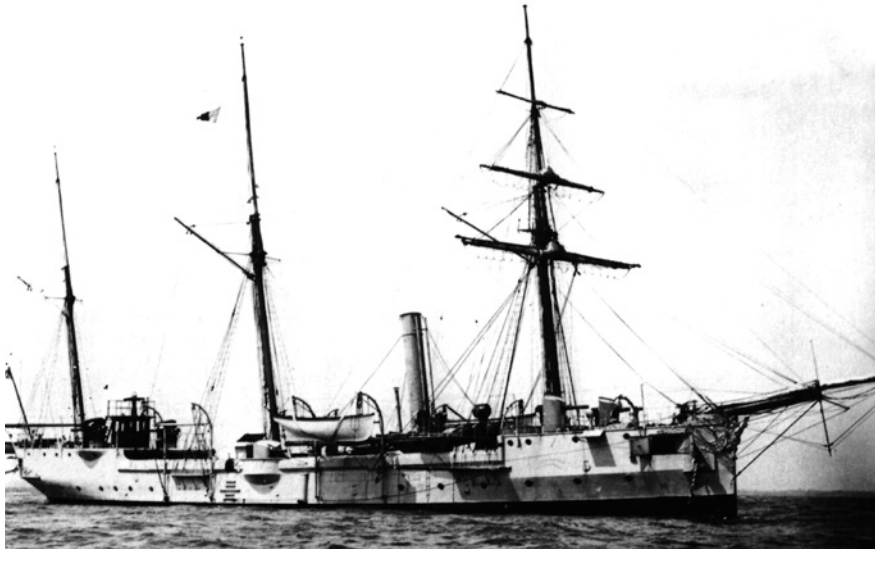


ABOVE LEFT
In 1866, the Britomart-class gunboat HMS *Cherub* and two of her sister ships were sent to the Great Lakes, to guard the Canadian border against raids by the Irish–American Fenian Brotherhood. Here, *Cherub's* crew can be seen drying their sails while at anchor on Lake Huron.

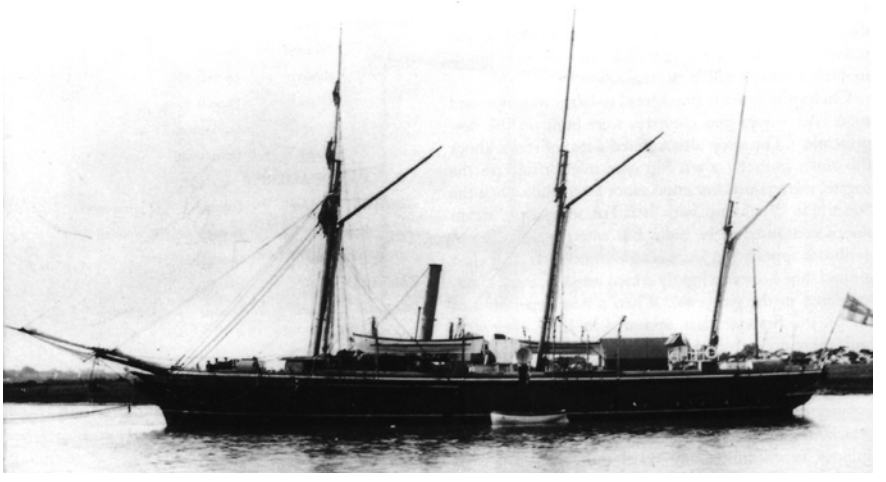
ABOVE RIGHT
HMS *Dwarf* was a Beacon-class composite gunvessel launched in Woolwich in 1867. The photograph was taken in Portsmouth in 1883, when she had been repainted white for service in the Persian Gulf.

30 iron-hulled Rendel gunboats. Dubbed 'flat-iron gunboats' due to their shape, these slow, stumpy vessels were armed with a single large RML. As they weren't designed to operate on the open sea, these ugly little craft were never part of the Navy's seagoing gunboat fleet, and so have been omitted from this study.

The French threat evaporated in the aftermath of the Franco-Prussian War (1870–71), and the flat-iron gunboats were given other secondary roles, such as tenders or gun trial vessels. Despite this, the building programme continued until the end of the decade. One unusual by-product was the commissioning of a class of 12 larger iron-built gunboats, designed for service in foreign stations. These duly became known as the Medina class. These were built in Jarrow between 1873 and 1877, and were constructed entirely from iron. Their ungainly appearance was accentuated by a bow rudder, a marked tumblehome and a stumpy forecastle and poop deck. Their armament of three 64-pounder RMLs was more conventional, though, as was their propulsion system augmented by a three-masted barquentine rig. They were really too cramped for extended service overseas, and so most of them were quickly relegated to the same support duties as the smaller flat-iron gunboats.



The elegant lines of the composite-built gunboat HMS *Pigmy*, commissioned in 1889. She was a prime example of the later generation of Victorian gunboats, designed specifically for service on foreign stations. However, despite her relatively potent armament of six 4-inch quick-firers, she was rapidly deemed obsolete and decommissioned in 1904.



HMS *Firefly*, a gunboat of the Forester class, built in Govan on Clydeside and launched in 1877. She had a relatively long career, serving on a variety of foreign stations including the Far East. By the late 1880s, she was considered obsolete and was decommissioned.

Medina class (iron-hulled)	
Ships in class (11)	*Dee, Don, Esk, Medina, Sabrina, Slaney, Spey, Tay, Tees, Trent, Tweed*
Dates	Launched 1876–77. Fate: decommissioned 1892–1923
Displacement	363 tons
Dimensions	110ft overall, 34ft beam, 5ft 7in.–5ft 9in. draught
Armament	Three 64-pdr RMLs
Propulsion	Two reciprocating engines (310hp), two screws. Max speed: 9½ knots
Complement	51

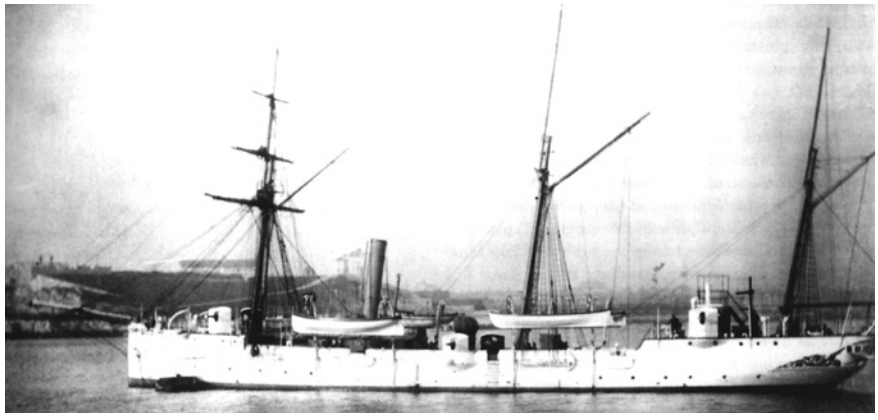
Forester class (composite-hulled)	
Ships in class (12)	*Contest, Cygnet, Express, Mallard, Moorhen, Sheldrake* (Batch 1). *Firebrand, Firefly, Firm, Forester, Forward, Foxhound* (Batch 2)
Dates	Launched: 1874–75 (Batch 1), 1877 (Batch 2). Fate: decommissioned 1888–1907
Displacement	455 tons
Dimensions	125ft overall, 23ft 6in. beam, 8ft 6in.–10ft 6in. draught
Armament	Two 64-pdr RMLs, two 20-pdr RBLs
Propulsion	Reciprocating engine (515hp), single screw. Max speed: 10 knots
Complement	60

HMS *Foxhound* was an elegant composite-built gunboat of the Forester class. After being commissioned in 1878 she served in a number of foreign stations, but in 1888 she was decommissioned and handed over to the coastguard service.

More conventionally, Nathaniel Barnaby was ordered to build a number of ocean-going gunboats similar to the Ariel class, which had been designed by his predecessor Edward Reed. The first of these, the Forester class of 12 composite-built gunboats, was powered by 60hp compound engines and single screws. They were all armed with a pair of 64-pounder RMLs, augmented by a pair of 20-pounder RBLs. There was little remarkable about them apart from their reliability and longevity. Like the Ariel before them, they proved good performers under both sail and steam, and were ideally suited to service on foreign stations. These two classes, together with the Banterer class that followed, would form the backbone of the Victorian gunboat fleet. Indeed, many of them remained in service until the end of the Victorian era.

In the early 1880s, Barnaby improved on the design to produce the Banterer class of 11 gunboats, which were similar to the Foresters save for their vertical bows.

HMS *Peacock*, a Pigmy-class gunboat launched in 1888. She spent much of her career in the Far East carrying out anti-piracy patrols, and for much of this time was based in Hong Kong. Her six 4-inch quick-firing guns were all protected by curved gunshields.



Banterer class (composite-hulled)	
Ships in class (11)	*Banterer, Bullfrog, Cockchafer, Espoir, Grappler, Raven, Redwing, Starling, Stork, Wasp, Wrangler*
Dates	Launched 1880–82. Fate: *Stork* completed as survey vessel 1883, remainder decommissioned 1904–23
Displacement	465 tons
Dimensions	125ft overall, 23ft 6in. beam, 10ft draught
Armament	Two 64-pdr RMLs, two 20-pdr RBLs
Propulsion	Reciprocating engine (440hp), single screw. Max speed: 9½ knots
Complement	60

Albacore class (composite-hulled)	
Ships in class (3)	*Albacore, Mistletoe, Watchful*
Dates	Launched: 1883 Fate: decommissioned 1906–07
Displacement	560 tons
Dimensions	135ft overall, 26ft beam, 7ft–10ft 3in. draught
Armament	Two 5in. Mark 1 BL guns, two 4in. BL Mark 1 guns
Propulsion	Reciprocating engine (650hp), single screw. Max speed: 10½ knots
Complement	60

HMS *Watchful*, one of three Albacore-class gunboats launched in 1883. From the start, she and her sisters were designed to mount breech-loading guns, carrying four arrayed along their centreline. During the 1890s she was removed from front-line service, and instead became a tender to the battleship HMS *Devastation*.

In 1883, Barnaby produced an enlarged version of these gunboats, the three-vessel Albacore class, not to be confused with the former much larger class of Crimean War-era gunboats. These new Albacores were composite-hulled craft, 10ft longer and a little beamier than the Banterers, but with the same square bows. What set them apart was their armament. By now the Admiralty had begun to overcome its temporary aversion to breech-loading guns, so the Albacores were armed with two 5-inch Mark 1 BLs on Vavasseur mountings as well as a pair of 4-inch BLs, a significant reworking of the same calibre 20-pounder RBL guns of the previous decade. Incidentally, not only were these the first British gunboats to carry a main armament of breech-loading guns, but they were also the last to mount their guns on centre-line pivots.

With the Albacore, Banterer and Forester classes, the Victorian gunboat had come of age. The abandonment of the coastal defence policy came about at a time when the nature of Britain's overseas empire was changing. The 'Scramble for Africa' had begun as European powers competed to claim parts of the African continent for themselves. This was an era of imperial colonisation and conquest in contrast to the previous decades when British commercial interests dominated foreign policy. For the Navy this meant a greater emphasis on maintaining a presence around the globe which meant more commitment to maintaining ships in foreign stations. While larger warships played a significant part in bolstering the Navy's presence around the world, for the most part it was the smaller craft – the gunboats, gunvessels and sloops – that proved the most versatile additions to Queen Victoria's Navy.

HMS *Condor*, like her three sister ships, was a powerful gunvessel for her day, armed with three large RMLs. She used these guns to good effect during the bombardment of Alexandria in 1882, when her performance earned the praise of the fleet's commander.

From gunvessel to sloop

In the mid-1870s, the Admiralty decided to replace some of its older wooden-framed gunvessels with composite-hulled ones. At the same time the end of the French invasion threat and the consequent move away from coastal defence opened the way to a new trend. In the Condor class Nathaniel Barnaby embraced the need for small but powerful ocean-going warships. These six gunvessels were a little larger than previous designs, but were powered by compound engines and single screws which gave them a reasonable top speed of 11½ knots. Their most noticeable feature at the time was their rig, which was similar to the fleet's sloops rather than other gunvessels. The Condors were duly followed by two more classes that were virtually repeats of them. The two ships of the Linnet class laid down in 1878 were a little larger to accommodate an enhanced armament of two 7-inch (4.5-ton) RMLs. They were quickly followed by the Algerine class of three vessels, which were direct copies of the Condors save for the addition of small poop decks.

Condor class (composite-hulled)	
Ships in class (4)	*Condor, Falcon, Flamingo, Griffon*
Dates	Launched: 1876–77. Fate: decommissioned 1889–92
Displacement	780 tons
Dimensions	157ft overall, 29ft 6in. beam, 13ft draught
Armament	One 7in. (4.5-ton) RML, two 64-pdr RMLs
Propulsion	Reciprocating engine (750hp), single screw. Max speed: 11½ knots
Complement	100

Linnet class (composite-hulled)	
Ships in class (2)	*Linnet, Swift*
Dates	Launched 1879–80. Fate: decommissioned 1902–04
Displacement	788 tons
Dimensions	165ft overall, 29ft beam, 10ft 3in.–10ft 10in. draught
Armament	Two 7in. (4.5-ton) RMLs, three 20-pdr BLs
Propulsion	Reciprocating engine (870hp), single screw. Max speed: 11½ knots
Complement	92

Algerine class (composite-hulled)	
Ships in class (3)	*Algerine, Rambler, Ranger*
Dates	Launched 1880. Fate: *Rambler* completed as survey vessel, 1884; remainder decommissioned 1892
Displacement	835 tons
Dimensions	157ft overall, 29ft 6in. beam, 13ft 6in. draught
Armament	One 7in. (4.5-ton) RML, two 64-pdr RMLs
Propulsion	Reciprocating engine (810hp), single screw. Max speed: 10½ knots
Complement	100

Nobody knew it at the time, but these would be the last composite-hulled gunvessels built for the Royal Navy. The Algerines were the fleet's penultimate class of gunvessels, and the final ones to be built along what were considered conventional lines. The last gunvessels, the two-ship Curlew class ordered in 1884, were only classed as gunvessels as the Admiralty couldn't fit them into any other category. With a displacement of 950 tons and an overall length of 195ft, they were much larger than previous gunvessels and, unlike their composite-hulled predecessors, the two Curlews were built entirely from steel. During the mid-1880s, the development of the Siemens process had allowed the manufacture of reliable steel in Britain, and these two gunboats were built entirely using this newly-available material.

Curlew class (steel-hulled)	
Ships in class (2)	*Curlew, Landrail*
Dates	Launched 1885–86. Fate: decommissioned 1906
Displacement	790 tons
Dimensions	195ft overall, 28ft beam, 10ft 6in. draught
Armament	One 6in. BL Mark II gun, three 5in. BL Mark I guns, one 18in. bow torpedo tube with two torpedoes, seven machine guns
Propulsion	Horizontal compound expansion engine (850hp), single screw. Max speed: 11 knots
Complement	46

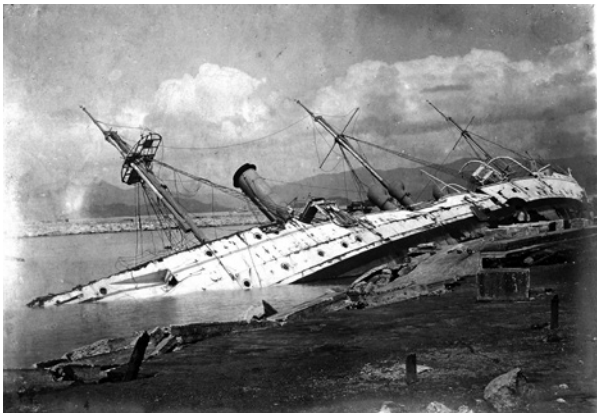
The Curlews were armed with a powerful 6-inch BL gun, augmented by a smaller 3½-inch piece, but unusually they were also fitted with a bow torpedo tube, designed to carry the then experimental 18-inch Whitehead

C

The Bombardment of Alexandria, 1882

In early 1882, an army-backed coup in Egypt led to the control of the country by a nationalist government, who resented Anglo-French ownership of the Suez Canal. To regain control of the canal, an Anglo-French naval force was sent to Alexandria under the command of Admiral Seymour. Tensions continued to rise, and riots led to the killing of both Europeans and progressive Egyptians in the city. At the same time the Egyptian army began improving the port's fortifications. The Egyptians ignored an ultimatum to stop the work, and so at 7am on 11 July the fleet began bombarding the port's defences. While the larger Allied warships concentrated on the port's main defences, the gunvessels *Condor, Bittern, Beacon* and *Cygnet* focused on the western side of the harbour, defended by two forts, Marabût and Adjemi, mounting 24 heavy guns.

When it was seen that the bombardment by the gunvessels wasn't having a huge effect, Seymour ordered Commander Lord Charles Beresford of the *Condor* to steam closer to Fort Marabût. Beresford closed to within 400yds of the fort, and his fire soon silenced the Egyptian guns. This prompted the battleship *Invincible* to send Beresford the signal 'Well done *Condor*!'. By that time the other Egyptian defences were subdued. This shows *Condor* at the height of the action, at around 10am. Her 7-inch and 64-pounder RMLs fired at close range can be seen pounding the fort, whose return fire was now slackening rapidly.



In September 1906 the steel-hulled sloop *Phoenix* sank while alongside a quay in Hong Kong when a typhoon savaged the port. It was a fate shared by several sloops and gunboats stationed in the Far East during this era.

torpedo. The Curlews lacked any form of sailing rig, and instead carried a pair of bare pole masts. As the Admiralty didn't really know what to do with them, the two ships were split up, with *Curlew* in service in home waters, fulfilling a range of duties, while *Landrail* was sent to South Africa to serve on the Cape Station. Officially, they were the last gunvessels in the fleet, as by then the ship type had fallen from favour. Instead, from the mid-1870s on, gunvessels were increasingly usurped by the sloop.

During the last decades of the Victorian era, all three types of ship – the gunboat, the gunvessel and the sloop – co-existed as part of the Navy's gunboat fleet.

The term 'sloop' had existed since the age of sail. It originally referred to a small sailing vessel with a single mast, although later two-masted versions appeared. After the advent of steam, the sloop remained in the fleet as a small steam-powered ocean-going cruiser, alongside the larger corvette, another survivor from the age of sail. They had also survived the advent of the gunboat and gunvessel, and, to some extent, developed along parallel lines. By the early 1870s, there were 16 sloops in the fleet, most of which were used to support naval operations in shallow waters. During the previous decade, many of these had been paddlewheel vessels, but these were now considered obsolete. This time, sloops would be given a new role as colonial policemen.

In 1872, Nathaniel Barnaby was ordered to draw up plans for a new class of six sloops. At the time these were defined as cruising ships with a crew of between 100–200 men. The Admiralty, however, intended from the start that rather than using these ships as cruisers, protecting the sea lanes, they would be used as colonial gunboats. The result was the Fantome class,

D

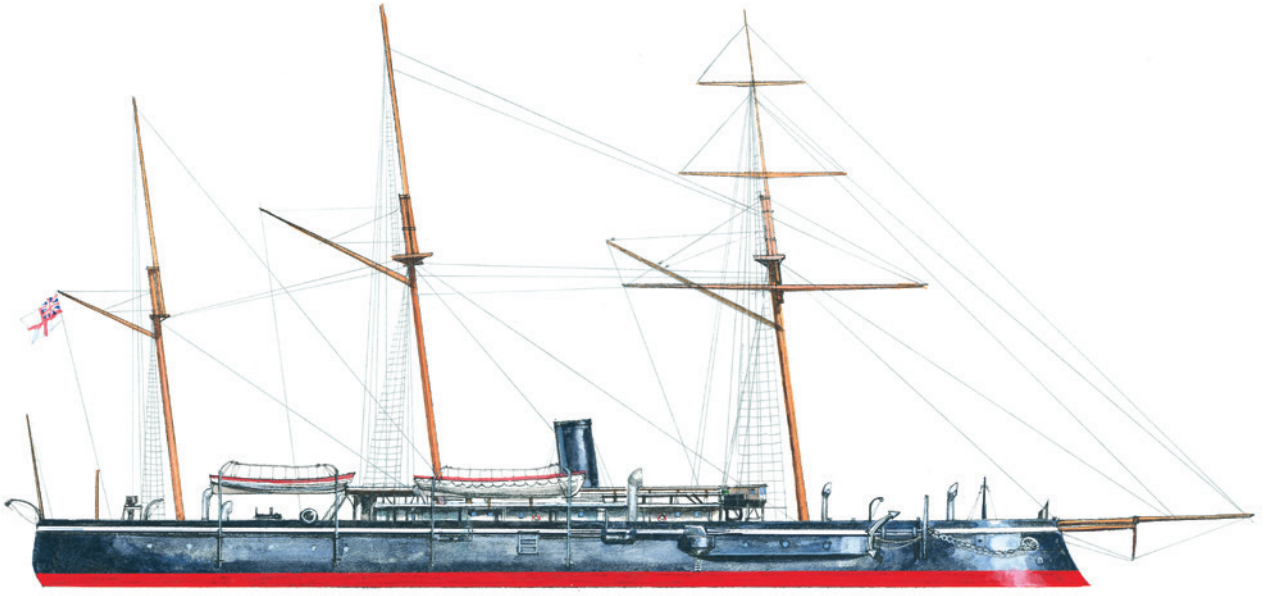
1. HMS *Viper*, Vixen-class armoured gunboat, *c.*1868

The Vixen class was a group of three experimental 'super-gunboats' that the Admiralty ordered to see if the protection of the new ironclad HMS *Warrior* could be successfully applied to gunboats and gunvessels. All three ships were similar enough to form a single class, but each differed from their sister ships in terms of construction or propulsion. HMS *Vixen* was laid down in Deptford on the Thames in 1864 and built entirely from iron. Like her sisters, she proved slow, unwieldy and a terrible sailer under canvas. It was originally hoped she could be sent to the Great Lakes, but instead *Viper* was towed to Bermuda, where she and her sister *Vixen* served as coastal defence ram ironclads and were used to bolster the island's defences. She was decommissioned in 1890 and scrapped 18 years later. This shows *Viper* as she appeared when she first arrived in Bermuda.

2. HMS *Egeria*, Fantome-class sloop, *c.*1875

The Fantome class of six sloops were the first ships of their type in the fleet to be built using composite construction, with wrought-iron and a wooden frame. They were elegant ships, carrying a barquentine rig on their three masts, with a straight bow and a rounded stern. HMS *Egeria*, named after a Roman water nymph, was built in Pembroke Royal Dockyard and commissioned in 1874. She carried a relatively powerful armament of two 7-inch and two 64-pounder (6.2-inch) RMLs, and her single propeller was driven by a modern compound-expansion engine supplied by Humphrey, Tennant & Co. In 1875, she was sent to Perak in what is now north-western Malaysia as part of a show of strength after the murder of a British citizen there. Commander Turton led *Egeria* on a punitive expedition up the Kurow River to punish the native people deemed responsible for the murder. *Egeria* went on to serve in the Pacific, but in 1886 she became a survey vessel. She was finally sold out of service in 1911.

1



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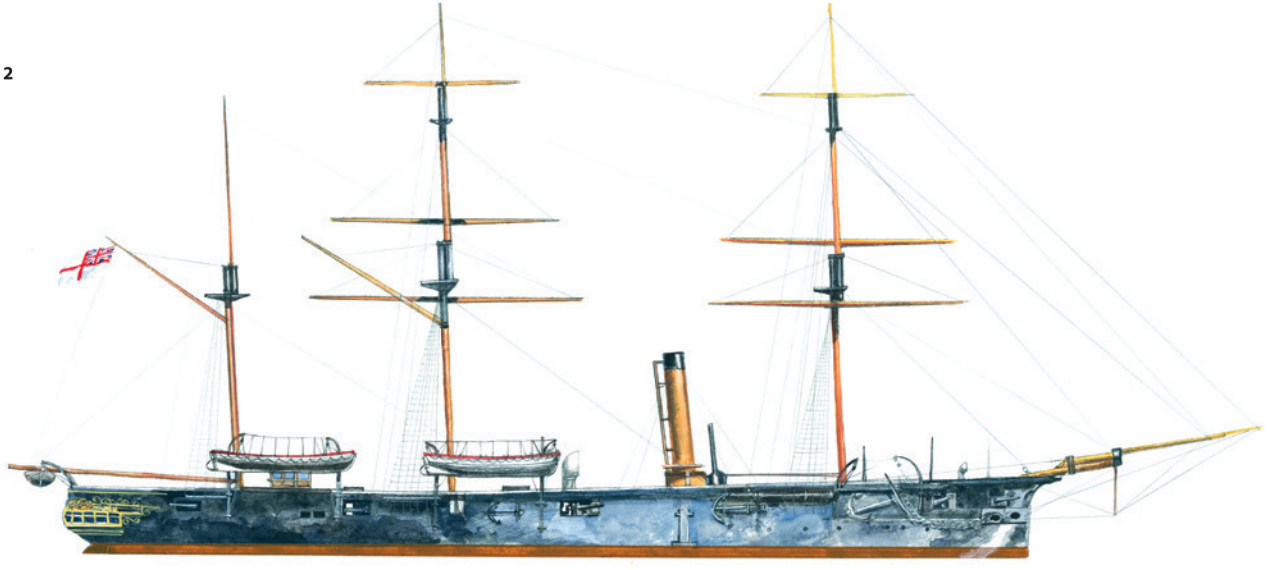


The after deck of HMS *Gannet*, photographed as she lay at anchor off Suakim in the Red Sea. A white canvas awning has been rigged as protection from the sun. In the centre, standing on the racers for one of the ship's new 5-inch guns, is the *Gannet's* locally-procured mascot, a gazelle named 'Mr Williams'.

the largest ships in the Navy to mount their four large 7-inch and 64-pounder RMLs along the ship's centreline. This made them larger versions of the contemporary Frolic and Arab-class gunvessels. They were powered by a compound engine driving a single screw, giving them a reasonable turn of speed but their displacement meant they drew as much as 14ft of water. Despite this, the Fantomes proved fairly useful and remained in active service until the late 1880s.

Fantome class (composite-hulled)	
Ships in class (6)	*Albatross, Daring, Egeria, Fantome, Flying Fish, Sappho*
Dates	Launched 1873–74. Fate: *Egeria* converted into survey ship 1886, remainder decommissioned 1887–89
Displacement	949 tons
Dimensions	160ft overall, 31ft 4in. beam, 12ft 6in.–14ft draught
Armament	Two 7in. (6.5-ton) RMLs, two 64-pdr RMLs
Propulsion	Reciprocating engine (120hp), single screw. Max speed: 10½–11½ knots
Complement	125

In 1873, Barnaby's deputy William White was charged with designing a large version, which from 1876 on became the Osprey class. The first seven of these were laid down in 1874 and 1875, and commissioned in 1877 and 1878. The Ospreys displaced over a thousand tons and carried six guns to their predecessors' four. All but two 64-pounders were on centreline mounts, with the last two being broadside-mounted, one on each beam. What let these ships down was their outdated reciprocating propulsion system, which gave them a mediocre performance. They were soon replaced by more modern and reliable compound expansion engines. In this form, they were successful enough to warrant a second batch to the class, ships which were identical save for their square bow rather than the graceful clipper one of the first batch. This second group of seven sloops are sometimes referred to as the Doterel class.

Osprey class (composite-hulled)	
Ships in class (14)	*Kingfisher, Osprey, Pelican, Penguin*, *Wild Swan* (Batch 1). *Cormorant, Doterel, Dragon, Espiègle, Gannet, Miranda, Mutine, Pegasus, Phoenix* (Batch 2)
Dates	Launched: 1876–79 (Batch 1), 1878–80 (Batch 2). Fate: *Doterel* destroyed in explosion *1881*, *Phoenix* wrecked 1882, remainder decommissioned 1889–1904
Displacement	1,130 tons
Dimensions	170ft overall, 36ft beam, 13–15ft draught
Armament	Two 7in. (6.5-ton) RML, four 64-pdr RMLs
Propulsion	Reciprocating engine (900-1,100hp), single screw. Max speed: 11½–12½ knots
Complement	140

Some of these ships were rearmed in the mid-1880s, with their RMLs replaced by more modern 5in and 6in breech-loading guns in broadside mounts. However, by the late 1880s, these sloops had reached the end of their useful life, and they were eventually either decommissioned or assigned to secondary duties. Taking their place during the mid-1880s were three small classes of sloops which, from the start, carried modern breech-loading guns. Designed by Barnaby in 1881, the two sloops of the Dolphin class were smaller than the Ospreys but carried two 5in and two 6in BL guns apiece. They were built in Middlesbrough and launched in 1882–83. Dolphin went on to distinguish herself in the defence of Suakin on the Red Sea in 1884–85. Both ships survived the scrapping of the gunboat fleet, and *Dolphin* eventually gave her name to the Royal Navy's submarine base.

Dolphin class (composite-hulled)	
Ships in class (2)	*Dolphin, Wanderer*
Dates	Launched 1882–83. Fate: decommissioned 1894–99
Displacement	925 tons
Dimensions	157ft overall, 32ft beam, 12ft 4in. –14ft 2in. draught
Armament	Two 6in. BL Mark II guns, two 5in BL Mark I guns, one signal gun, seven machine guns
Propulsion	Horizontal compound expansion engine (75hp), single screw. Max speed: 11 knots
Complement	115

In 1882–83 a group of six large composite-built gunvessels was laid down – five in British shipyards and one in Malta. These were designed by Barnaby to be improved version of the Fantomes, armed with breech-loading guns. To reflect this, in 1884, while still under construction, they were re-classified as sloops. They became the Mariner class, and were very similar to their predecessors, save for their armament of six to eight 5-inch BL broadside-mounted guns. Like their predecessors they carried an increasingly anachronistic sailing rig on three masts, but were amply powered by compound expansion engines, driving single screws. All but one would remain in service until the end of the era.

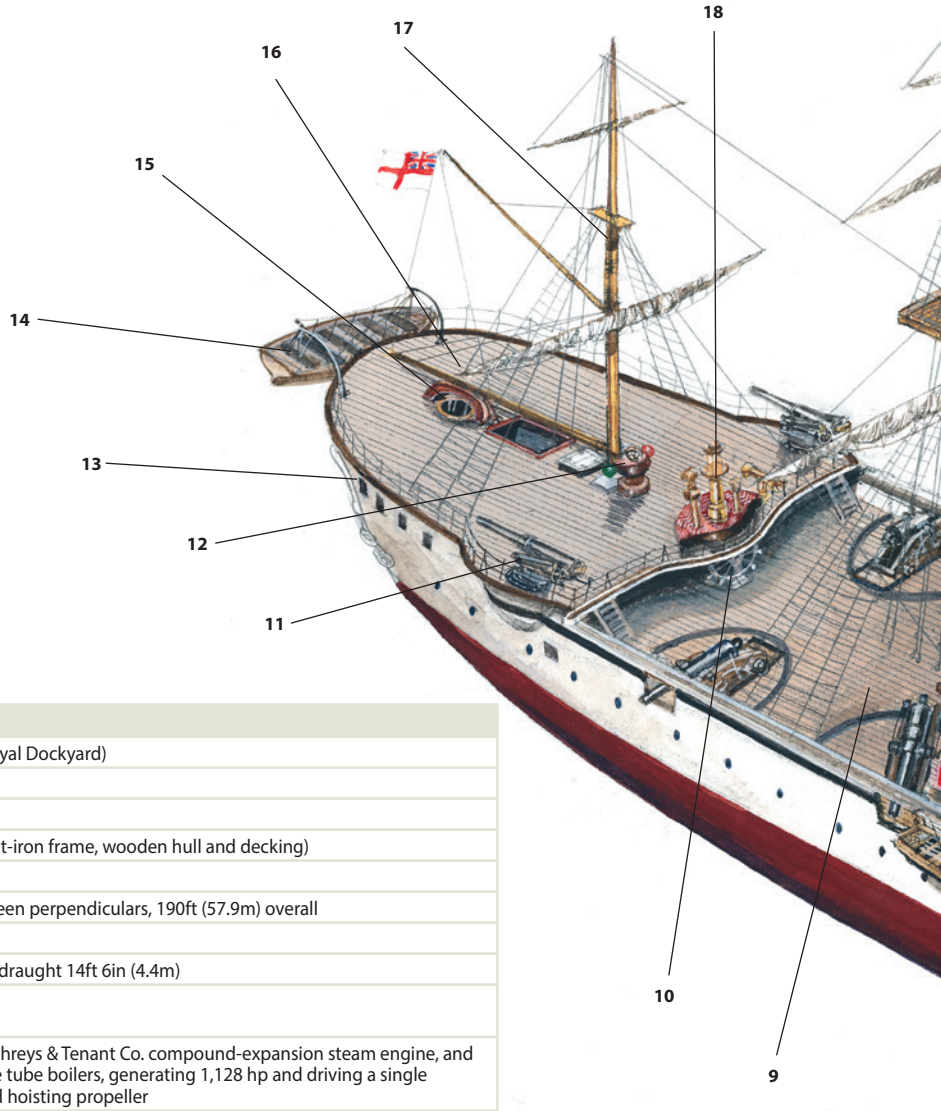
HMS *Gannet*, an Osprey- (or Doterel) class sloop, pictured during the mid-1880s. Unlike all her contemporaries she survived long enough to be preserved and eventually restored. She is now a historic ship, based at Chatham Historic Dockyard in Kent.

E

HMS *Gannet*, *c.*1885

HMS *Gannet* was one of the second (Doterel) batch of Osprey-class sloops. After entering service in April 1879, she was deployed in the Pacific, then returned to Sheerness in mid-1883, and underwent a lengthy refit. She was recommissioned in September 1885 and was sent to join the Mediterranean Fleet, then dispatched to Suakin on the Red Sea to support Anglo–Egyptian land-based operations in the Eastern Sudan. She also conducted anti-slavery patrols in the area. *Gannet* returned to Malta for a refit in 1888, but two months later she was paid off, and recommissioned as a survey ship. She remained in the Red Sea and the Mediterranean until early 1895, then returned to Chatham to be paid off again. She reverted to harbour service until 1900, when she was decommissioned for the last time.

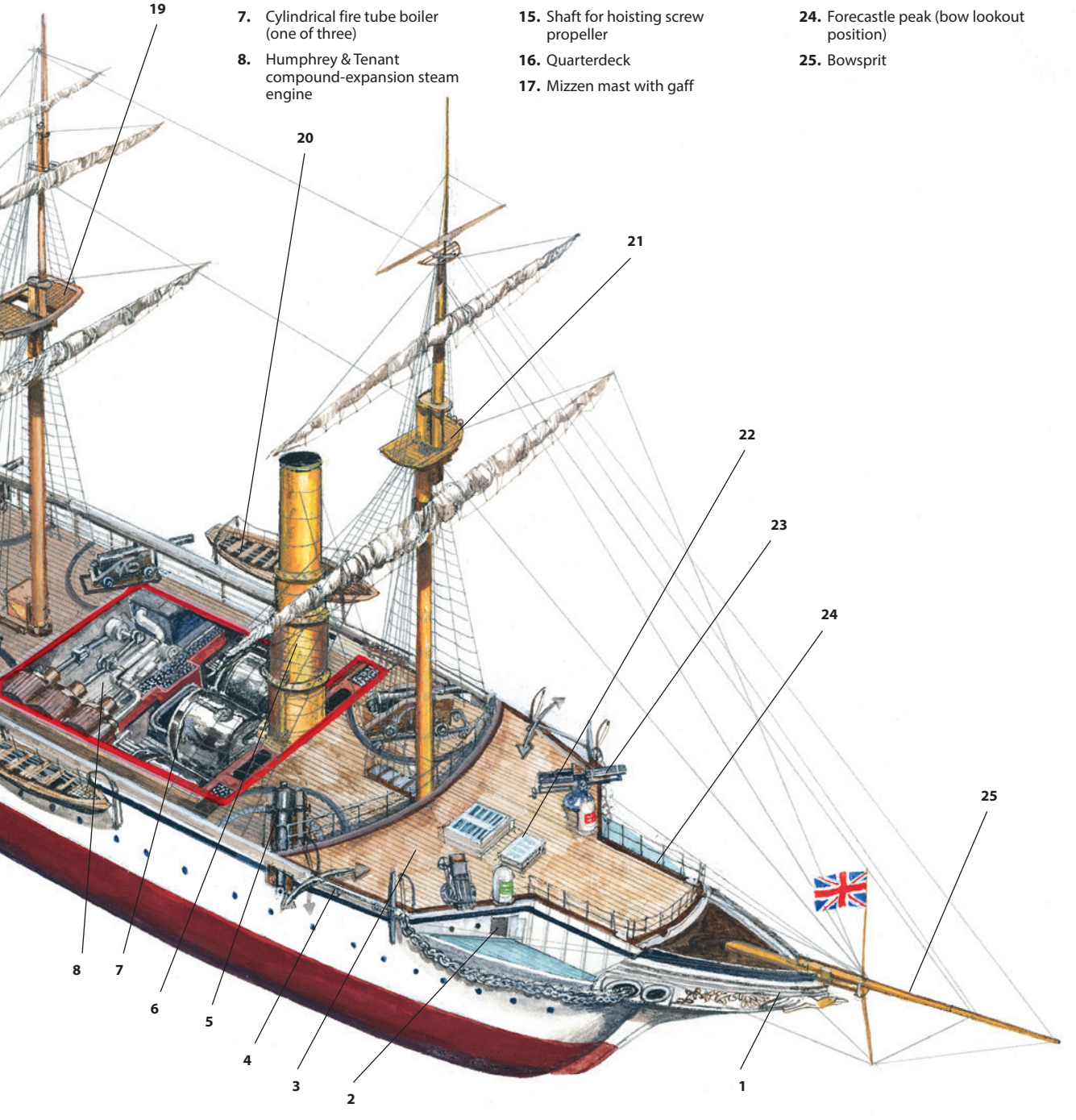
After serving as an accommodation ship, she became the training ship *President* in 1903, based in London. She was finally turned over to The Maritime Trust, who fully restored her and gave her her original name. In 1994 she was moved to the Chatham Historic Dockyard Trust, who maintain her as a historic ship, open to visitors.



HMS *Gannet*	
Laid down	1877 (Sheerness Royal Dockyard)
Launched	31 August 1878
Commissioned	17 April 1879
Construction	composite (wrought-iron frame, wooden hull and decking)
Displacement	1,130 tons
Length	170ft (51.8m) between perpendiculars, 190ft (57.9m) overall
Beam	36ft (11m)
Draught	16ft (4.9m) – mean draught 14ft 6in (4.4m)
Height of mainmast (from keel to truck)	132ft (40.2m)
Propulsion	two-cylinder Humphreys & Tenant Co. compound-expansion steam engine, and three cylindrical fire tube boilers, generating 1,128 hp and driving a single Griffins twin-bladed hoisting propeller
Maximum speed	12½ knots
Range	2,014nmi at 11½ knots
Bunker capacity	140 tons of coal
Sailing rig	three-masted barque rig
Armament	two 6in/26 (15.2cm) BL Mark II guns, six 5in/25 (12.7cm) BL Mark I guns, four Nordenfeldt machine guns
Complement	140 officers and men

KEY

1. Figurehead (a gannet in flight)
2. Forward port – obsolete after her 1883–85 refit
3. Raised foredeck
4. Bow anchor (one of two)
5. Broadside-mounted 6in/26 BL (one of two) with pivot track (These replaced her two 7in RMLs in the same positions during her 1883-–85 refit.)
6. Funnel
7. Cylindrical fire tube boiler (one of three)
8. Humphrey & Tenant compound-expansion steam engine
9. Waist
10. Ship's wheel
11. After broadside-mounted 5in/25 BL with limited traverse aft (one of six) (These replaced her four 64pdr RMLs mounted in the waist during her 1883–85 refit.)
12. After capstan
13. Captain's cabin
14. Jolly boat
15. Shaft for hoisting screw propeller
16. Quarterdeck
17. Mizzen mast with gaff
18. Compass binnacle and command position
19. Mainmast and fighting top
20. Whaler (one of two)
21. Foremast and fighting top
22. Forward companionway
23. Nordenfeldt machine gun (one of two on forecastle) – two more capable of being mounted on quarterdeck or in fighting tops.
24. Forecastle peak (bow lookout position)
25. Bowsprit



HMS *Racer*, a Mariner- class sloop built in Devonport and commissioned in April 1885. She spent a decade hunting slavers on the West African station before returning home to serve as a tender to the officer training ship HMS *Britannia*, based at Dartmouth.

Mariner class (composite-hulled)	
Ships in class (6)	*Acorn, Icarus, Mariner, Melita, Racer, Reindeer*
Dates	Launched 1883–88. Fate: decommissioned 1896–1905
Displacement	970 tons
Dimensions	167ft overall, 32ft beam, 14ft draught
Armament	Eight 5in. BL Mark II guns (*Melita*; Mark IV, *Reindeer*; six Mark I), one signal gun, eight machine guns
Propulsion	Horizontal compound expansion engine (970-1,380hp), single screw. Max speed: 11½–12½ knots
Complement	126

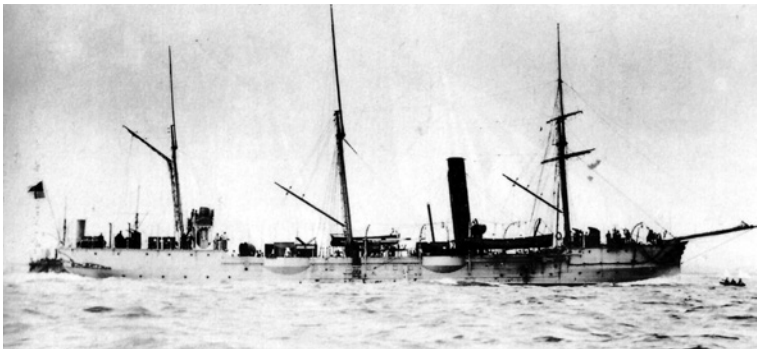
HMS *Ringdove* was a Redbreast-class gunboat of composite construction. She was launched in Devonport in 1889 and subsequently saw service on the Australia station. She finally returned home in 1901, when she was decommissioned and placed in reserve. During World War I she enjoyed a brief second career as the salvage ship *Melita*.

The last Victorian gunboats

In 1885, Sir William White succeeded Barnaby as Director of Naval Construction. While he is best known for building Britain's powerful fleet of 'pre-dreadnought' battleships, he was also responsible for upgrading the gunboat fleet. With the exception of the Curlew class, gunvessels had now given way to sloops. White was an advocate of steel ship construction, but the Admiralty still had to be convinced this was a suitable material for its smaller ships. So, of the 22 sloops and 18 gunboats built under his supervision, almost half of them would be built using the well-established composite method of construction. Even then, it wasn't easy for White to make the case for steel-hulled sloops due to the weight and power of their ordnance. He only succeeded in convincing the Admiralty to build all-steel gunboats during the final years of the gunboat era.

This was a time of significant diplomatic and geo-political change. Britain's intervention in Egypt gave it full control of the Suez Canal. This led to a chilling of diplomatic relations with France, at

a time when Germany was becoming interested in colonial expansion. France sought a new diplomatic alliance with Russia, which raised the spectre of an anti-British alliance in the event of a new European war. The *Pax Britannica* was beginning to unravel. When pressed, the Admiralty grudgingly conceded it was ill-prepared for a major war, a point driven home by the British fleet's poor performance in the large-scale naval manoeuvres held in 1888. It was clear that the Navy was in need of a major overhaul. The result was the Naval Defence Act of 1889, which guaranteed the funding of a new fleet of battleships and cruisers, designed by White. Savings, though, had to be made. The obvious place was in the gunboat fleet, which was seen as too weak to protect Britain's global empire in time of war.



The Nymphe-class sloop *Buzzard*, launched in 1887, was well-armed, with eight 5-inch breech-loading (BL) guns mounted in sponsons amidship or in pairs on her forecastle and poop deck. This made the Nymphes some of the best-armed warships in the gunboat fleet.

The gunboat fleet was already spread quite thin. In 1889 there were 17 sloops, five gunvessels and 22 gunboats on active service, with eight more sloops, four gunvessels and six gunboats in refit, in reserve or consigned to harbour duties. In other words, there weren't really enough gunboats to perform a global policing role, let alone play an active part in imperial defence in time of war. In addition, the Admiralty was already veering towards a new policy of relying on small cruisers to protect its imperial outposts, stationed in naval bases such as Simonstown in South Africa, Hong Kong, or Kingston, Jamaica. Despite all this, White was given the task of replacing the numerous gunboats which had been decommissioned or removed from front-line service over the past few years and the gunboat fleet was granted a reprieve and reinforced rather than disbanded.

White's programme had actually begun before the Act. Shortly after he assumed his post, he began developing a Nymphe class of four composite-built sloops. These were large ships for their type, displacing 1,140 tons apiece, and powered by triple expansion engines driving two screws. With a top speed in excess of 14 knots, they were some of the fastest gunboats in the service. Their armament reflected recent trends too – eight 5-inch BLs, with a pair side by side fore and aft, and the rest in broadside positions. All of the guns were protected by gunshields. The Nymphes proved to be welcome additions to the gunboat fleet, and remained in service until the end of the era. However, they would be the last composite-built sloops built for the Navy.

Nymphe class (composite-hulled)	
Ships in class (4)	*Buzzard, Daphne, Nymphe, Swallow*
Dates	Launched 1885–88. Fate: decommissioned 1904–09
Displacement	1,140 tons
Dimensions	195ft overall, 28ft beam, 11ft 6in.–12ft 7in. draught
Armament	Eight 5in. BL Mark III guns (*Swallow*: Mark II, *Daphne*: Mark IV), eight machine guns
Propulsion	Horizontal compound expansion engine (2,000hp), single screw. Max speed: 13½–14½ knots
Complement	138

During this same period White also busied himself building 14 new composite gunboats. The Bramble class (1886) of four 1st-class gunboats ordered in 1885 was markedly superior to its predecessors, with modern engines and armament. The vessels still retained the traditional three-masted sailing rig, although by now propulsion systems were reliable enough to dispense with sails. These proved reasonably successful, but one of the class, *Wasp*, foundered off Singapore in 1887, which raised questions about their stability. They were followed two years later by the six 1st-class gunboats of the Pigmy class. The misspelling of 'pygmy' was retained. These were virtually repeats of the Brambles, identical apart from a slightly enhanced propulsion system and with improved crew accommodation.

Bramble class (composite-hulled)	
Ships in class (4)	*Bramble, Lizard, Rattler, Wasp*
Dates	Launched 1886. Fate: *Wasp* foundered September 1887, remainder decommissioned 1905–1910. *Bramble* renamed *Cockatrice* 1896
Displacement	810 tons
Dimensions	165ft overall, 29ft beam, 11ft draught
Armament	Six 4in. BL Mark I guns
Propulsion	Horizontal compound expansion engine (1,000hp), single screw. Max speed: 13 knots
Complement	76

Pigmy class (composite-hulled)	
Ships in class (6)	*Partridge, Peacock, Pheasant, Pigeon, Pigmy, Plover*
Dates	Launched 1888. Fate: decommissioned 1904–06
Displacement	755 tons
Dimensions	165ft overall, 30ft beam, 11ft 3in. draught
Armament	Six 4in. BL Mark II guns
Propulsion	Horizontal compound expansion engine (1,200hp), single screw. Max speed: 13 knots
Complement	76

F

1. HMS *Dolphin*, Dolphin-class sloop, 1885

The two sloops of the Dolphin class were virtually identical repeats of the earlier Osprey- and Doterel- class, with a similar three-masted barque rig and propulsion system. They differed from their predecessors, though, in their more effective breech-loading armament. Both were built in the same Middlesbrough shipyard of Raylton Dixon & Co. and commissioned in Sheerness in 1884. HMS *Dolphin* was sent to join the Mediterranean Fleet, and was then allocated to the Red Sea Division. In March 1885 Commander Eardley-Wilmot was ordered to contribute some of the *Dolphin's* crew and Gardner machine guns to form part of a naval brigade. During the ensuing Battle of Tofrek, seven members of *Dolphin's* crew were cut down by Mahdists while manning a Gardner machine gun. *Dolphin* remained in the Red Sea until 1888, after seeing action off Suakin in defence of the garrison. *Dolphin* eventually became a submarine depot ship, and survived until 1925.

2. HMS *Daphne*, Nymphe- class sloop, *c.*1900

The Nymphe class was the last batch of composite-built sloops built for the Royal Navy. The succeeding Beagle class, laid down while the Nymphes were still under construction, would be built entirely from steel. Unlike the preceding classes of sloops, which had square sterns, these were fitted with elegant clipper bows, which gave them a much sleeker appearance. HMS *Daphne* was built in Sheerness Royal Dockyard, launched in May 1887, and commissioned a year later. She was sent to the China Station, and spent the next three years based in Hong Kong. During this period her primary role was to suppress piracy in the region. In late 1899 the eruption of the Boxer Rebellion led to the intervention of the western powers in China. Inevitably *Daphne* was involved. Under Commander Winnington-Ingram she was deployed in support of the European volunteer force in Shanghai, supplying them with ammunition and patrolling the waters off the port. She remained on the China Station until she was scrapped in 1904, a victim of the Fisher axe.

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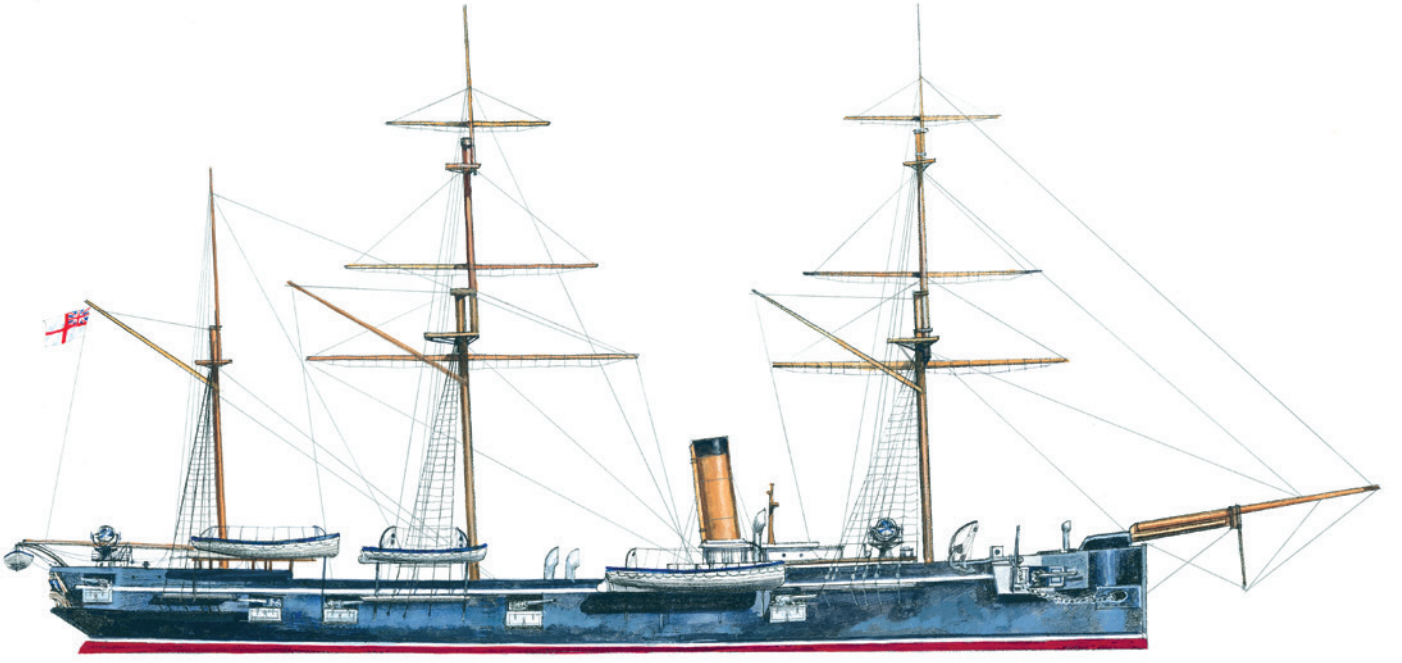

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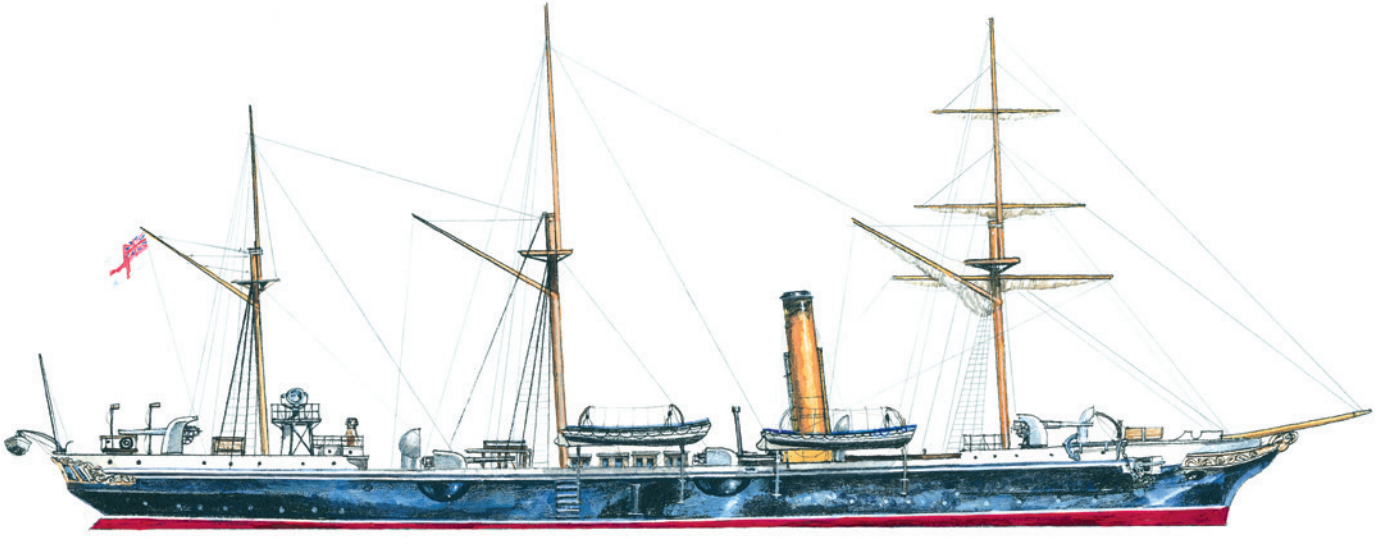
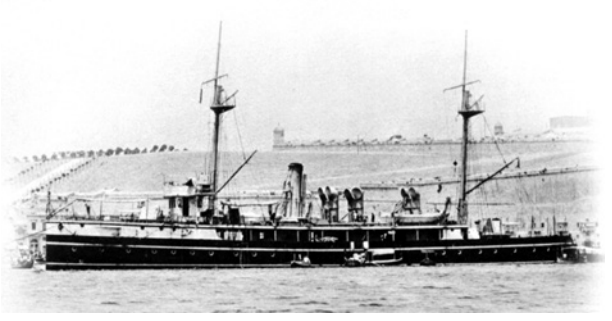




HMS *Britomart* was built in Liverpool and launched in 1900. Like her three sister ships she was built from steel, to a modern design. She served on the China Station, where she was based in Hong Kong, and saw service in the Persian Gulf during World War I.

As the Naval Defence Act loomed, the last class of nine composite gunboats was launched, having been ordered by the Admiralty the previous year – seven from Royal dockyards and the remaining pair from Scott's yard in Greenock. These duly became the Redbreast class. All of them were launched in 1889. Once again they were virtual repeats of the Brambles and Pigmys. They would also be the last composite-built gunboats to be built for the Royal Navy. White had long been an advocate of all-steel construction, but the innate conservativism of the Admiralty stayed his hand. Despite this, in 1888, it had approved White's plans to build a small experimental class of two steel-hulled sloops: the Beagle class – *Beagle* and *Basilisk* – were exact repeats of the Nymphes, only built from steel rather than of composite construction. They proved to be perfectly good vessels, but they were already outdated when they were launched, thanks to the policy changes instituted in the Naval Defence Act of 1889, which embraced the premise that gunboats were less well suited to a global policing role than modern cruisers, capable of patrolling the world's sea lanes.

Redbreast class (composite-hulled)	
Ships in class (9)	*Goldfinch, Magpie, Lapwing, Redbreast, Redpole, Ringdove, Thrush, Widgeon, Sparrow*
Dates	Launched 1889. Fate: decommissioned 1902–10
Displacement	805 tons
Dimensions	165ft overall, 31ft beam, 11ft–13ft 9in. draught
Armament	Six 4in. BL Mark II guns, two 3-pdr QF guns
Propulsion	Horizontal triple expansion engine (1,200hp), single screw. Max speed: 13 knots
Complement	76

Beagle class (steel-hulled)	
Ships in class (2)	*Basilisk, Beagle*
Dates	Launched 1889. Fate: decommissioned 1905
Displacement	1,170 tons
Dimensions	195ft overall, 30ft beam, 13ft 4in. draught
Armament	Eight 5in. BL Mark IV guns, eight machine guns
Propulsion	Horizontal triple expansion engine (2,000hp), two screws. Max speed: 14½ knots
Complement	135

The 1889 Act forced the Admiralty to re-examine its shipbuilding policy in light of the need to build a large modern battle fleet powerful enough to simultaneously take on any two potential enemy powers. In effect it meant creating a modern navy. With a top speed of just 14 knots, ships like the new Beagles were too slow to evade a more modern enemy cruiser. They were never really meant to fight. The Victorian gunboat fleet existed as a police force, with the firepower needed to deal with low-level threats to British imperial interests, nothing more. In time of war, they would be extremely vulnerable. As the journalist G. W. Stevens put it in his book *Naval Policy* (1896), these ships 'were too weak to fight, and too slow to run away'. In the same year, Brassey's *Naval Annual* described the gunboats 'which we maintain on commission in foreign stations' as 'absolutely valueless for war purposes'. It was a damning indictment.

The Navy still maintained 22 sloops, four gunvessels and 25 gunboats in service – a force that was still being augmented in dribs and drabs as older vessels were decommissioned. So, despite its critics, the Navy still saw a need for these small warships. Certainly, they couldn't match a modern cruiser in a stand-up fight, but as global policemen and representatives of British power they still had a role to play. In the six years from 1894 onwards, White would build a total of 16 sloops and four gunboats. All of these would be constructed from steel.

The Redbreast-class composite-built gunboat HMS *Thrush* saw service in Canada and Bermuda, and for a time was commanded by the future King George V. In 1896, she saw action during the brief Anglo-Zanzibar War. She was handed over to the coastguard service in 1906 before being converted into a salvage ship.

Alert class (steel-hulled)	
Ships in class (2)	*Alert, Torch*
Dates	Launched 1894. Fate: decommissioned 1906–17
Displacement	960 tons
Dimensions	180ft overall, 32ft 6in. beam, 10ft–13ft draught
Armament	Six 4in. BL Mark III guns, four 3-pdr QF guns
Propulsion	Vertical triple expansion engine (1,400hp), single screw. Max speed: 13 knots
Complement	106

This programme began in 1893 with two Alert-class sloops. Essentially these ships were slightly smaller than the preceding Beagle class, but otherwise they were built on similar traditional lines. The most notable difference from their predecessors was that they had far more graceful lines, accentuated by a clipper bow and cutaway stern. Unlike the Beagles, though, they were powered by a single screw. They carried the standard three-masted rig but proved unstable under sail, so this rig had to be reduced with its yards removed to render it workable. By the mid-1890s, performance under sail shouldn't even have been a design consideration, but the Admiralty still insisted on keeping the traditional gunboat look. White may have been a gifted naval architect, but he still had to work within the constraints imposed by his often-reactionary superiors.

Phoenix class (steel-hulled)	
Ships in class (2)	*Algerine, Phoenix*
Dates	Launched 1895. Fate: *Phoenix* capsized September 1906, *Algerine* decommissioned 1919
Displacement	1,050 tons
Dimensions	185ft overall, 32ft 6in. beam, 11ft 3in. draught
Armament	Six 4in. BL Mark III guns, four 3-pdr QF guns
Propulsion	Vertical triple expansion engine (1,400hp), two screws. Max speed: 13 knots
Complement	106

The Phoenix class of two steel-hulled sloops was essentially a repeat of the Alerts, albeit consisting of ships with two screws rather than one. Both *Algerine* and *Phoenix* were built in Devonport and entered service in 1896. So far, White had been producing vessels for the gunboat fleet which, apart from their steel construction, were little different from those designed by his

predecessor Barnaby. In 1897, though, he was given a free hand to design a class of four gunboats, the last of their kind to be built for the Royal Navy. Unlike all previous gunboats, these were of all-steel construction, and in terms of appearance they had more in common with White's latest cruisers than with other warships of the gunboat fleet. For the Bramble class (1898), White produced a type of gunboat which looked thoroughly modern, with two light masts rather than a three-masted sailing rig, and two 4-inch quick-firing BL guns mounted singly, fore and aft, with a clear arc of fire to either beam.

Bramble class (steel-hulled)	
Ships in class (4)	*Bramble, Britomart, Dwarf, Thistle*
Dates	Launched 1898–99. Fate: decommissioned 1920–26
Displacement	710 tons
Dimensions	180ft overall, 33ft beam, 8ft draught
Armament	Two 4in. BL Mark III guns
Propulsion	Triple expansion engine (1,300hp), two screws. Max speed: 13 knots
Complement	85

The Brambles proved a resounding success. It was almost as if their designer had saved the best for last. Incidentally, the earlier *Bramble*, launched in 1886, had been renamed *Cockatrice* to allow her old name to continue its association with the gunboat fleet. These new Brambles represented the last development of the gunboat, but they were also the end of the line. By the time they entered service in 1900–01, the gunboat fleet was already being reduced. By 1900 it was a fraction of the force it had been during its heyday of the 1870s and early 1880s but still the Brambles had a small role to play in imperial defence. Their shallow draught allowed them to go where larger warships couldn't venture, and they retained their usefulness until the end of World War I.

White, though, hadn't quite finished. In 1897 he was ordered to produce a new class of six sloops. These sloops of the Condor class – the second class of that name in the gunboat navy – were built along traditional lines. Indeed, they were broadly similar to the Fantome class, launched a quarter of a century before. Of course they carried a more modern armament and were built from steel, but their general appearance remained the same. Like White's earlier sloops, the Condors carried six 4in quick-firing guns with shields – two on the forecastle, two amidships and two aft. The ships were fitted with a poop deck, where their bridge was sited, and they carried a full barque sailing rig on three masts. Like the Alert and Phoenix classes before them, they sported elegant clipper bows and rounded sterns, while their raked funnel and carved figurehead gave them the appearance of a smart yacht. As the last sloops of the Victorian era – the Queen died in January 1901 – they personified the style of their age.

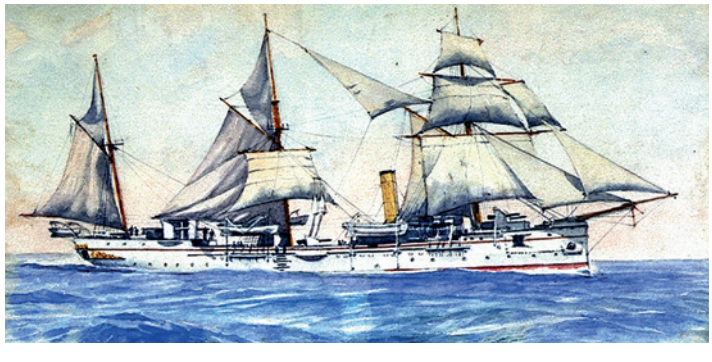
Condor class (steel-hulled)	
Ships in class (6)	*Condor, Mutine, Rinaldo, Rosario, Shearwater, Vestal*
Dates	Launched 1898–1900. Fate: *Condor* foundered December 1901; remainder decommissioned 1911–21. *Mutine* converted to survey ship 1907
Displacement	980 tons
Dimensions	180ft overall, 33ft beam, 11ft 6in. draught
Armament	Six 4in. BL Mark III guns, four 3-pdr QF guns
Propulsion	Vertical triple expansion engine (1,300hp), two screws. Max speed: 13 knots
Complement	120

In terms of small warships designed to show the flag, they couldn't be faulted. However, when *Condor* foundered in a Pacific gale in late 1901, the Admiralty finally realised that sailing rigs were little more than a liability to modern warships. So, the surviving Condors – like most remaining sloops – had their sails quietly removed and their masts reduced or altered to render the ships more seaworthy. But they weren't quite the last of their kind. In 1899, White was ordered to produce what would be his final group of six sloops. The Cadmus-class ships, completed between 1902 and 1904, were enlarged versions of the Condors, with a similar armament and propulsion system. Four of them had been completed when White retired and so the last two were completed by his successor, Sir Philip Watts. One of them, the *Espiègle*, was the last ship in the Navy to be fitted with a figurehead.

Cadmus class (steel-hulled)	
Ships in class (6)	*Cadmus, Cleo, Espiègle, Fantome, Merlin, Odin*
Dates	Launched 1900–03. Fate: *Fantome* and *Merlin* converted to survey ship 1906, remainder decommissioned 1921–23
Displacement	1,070 tons
Dimensions	185ft overall, 33ft beam, 11ft 3in. draught
Armament	Six 4in. BL Mark III guns, four 3-pdr QF guns
Propulsion	Vertical triple expansion engine (1,400hp), two screws. Max speed: 13 knots
Complement	120

By then, these new sloops, together with the older sloops and gunboats still in service, were generally viewed by the Admiralty as being fit only for subsidiary work. However, this was a time when the Royal Navy was undergoing major changes. In October 1904, Admiral Sir John 'Jackie' Fisher became the new First Sea Lord. He fully intended to reform the Navy so it was able to fight and win a modern war. As a gunnery expert he heartily embraced the idea of the fast, 'all-big gun battleship', and so encouraged Watts to design one. The result was HMS *Dreadnought*. When launched in 1906 she would transform naval warfare and usher in the era of the modern battleship. This, though, would cost money. So, in readiness for the financial demands his new battle fleet would impose on the country, Fisher set about reducing the Navy's budget. One of the first places his axe fell was on the gunboat fleet.

Fisher argued that in time of war the gunboat fleet would be 'a positive hindrance to the Navy', and would be easy prey for an enemy cruiser. He saw it as a strategic weakness, arguing that the Navy's first duty was not to 'show the flag', but to be 'ready to strike'. He even unkindly described the gunboat fleet as 'a miser's horde of useless junk'. By scrapping them, he would not only reduce the Navy's vulnerability in time of war, but would concentrate the Navy's resources on its fighting fleet. So, in the summer of 1904, he declared the Navy would dispose of 90 of its smaller ships, and place another 64 of them in reserve. It was the end of the gunboat era – almost.



The Redbreast-class gunboat HMS *Sparrow* was built in Greenock and commissioned in 1890. She was then sent to the East Indies Station, where her duties as a pirate hunter took her as far afield as West Africa. She also participated in several colonial-era actions in African waters, including the bombardment of Zanzibar in 1896. In 1905 she became a training ship for the New Zealand government.

Gunboat armament

The armament of these Victorian gunboats reflected the changing preferences and technological improvements of the era. During the Crimean War, the majority of gunboats and gunvessels carried 68-pounder (95 hundredweight) smoothbore muzzle-loaders (SML), weighing 4.7 tons (4,800kg). These guns had an effective range of around 3,000yds – a little under two miles. This was briefly replaced by the 110-pounder (7-inch) Armstrong rifled breech-loader (RBL), which had a superior range, velocity and rate of fire. In 1863, when several breech-blocks blew out during the bombardment of Kagoshima in Japan, the Admiralty abandoned large breech-loaders and opted for rifled muzzle-loading (RML) guns instead. They would remain in vogue for another 15 years.

From 1863 the Royal Navy adopted the 64-pounder (6.3-inch) RML produced in Woolwich, which weighed 3.5 tons and had a range of 5,000yds. Two years later the 7-inch RML became available. It weighed a hefty 6.5 tons, but had an impressive effective range of 5,500yds. In 1874 a lighter 4.5 ton (or 90 hundredweight) version was also developed, which had the same range as its heavier predecessor.

In 1880 the Admiralty decided to switch to the new generation of breech-loading (BL) guns that were then becoming available. All were rifled, so the 'R' prefix had become superfluous. The Albacore-class gunboats launched in 1883 were the first to mount these weapons – a combination of 4-inch and 5-inch BLs. Their Vavasseur gun mountings were designed to absorb the weapon's recoil. The 4-inch BL had an unimpressive range – no greater than the RMLs it replaced – but this increased as successive models (or Marks) were introduced. The 5-inch BL had a range of 8,700yds, and a greater velocity than its RML predecessor. The most significant advantage, though, was in both accuracy and rate of fire. Also, with a mass of 1.4 and 2.1 tons respectively, they were considerably lighter than the 7-inch RML. This meant more of them could be carried. Today a 5-inch BL gun can be found on the deck of HMS *Gannet*, Britain's only surviving Victorian-era gunboat. During the 1880s the Dolphin and Curlew classes of sloops and gunvessels were fitted with 6-inch Mark II BLs. These powerful guns weighed in at 4.5 tons, but fired a 100-pound shell with an effective range of 10,000yds. During the 1890s the Navy adopted the new 4-inch quick-firing (QF) gun. It had all the benefits of earlier breech-loaders, with a range of 9,000yds, but possessed a greater rate of fire of around five rounds a minute. At the same time the Elswick Ordnance Company designed a slightly more powerful 4.7-inch QF gun with a similar rate of fire, but with an improved range (10,000yds) and a greater muzzle velocity. These would eventually replace many of the older 5-inch BLs still in service.

Gun crew drill on board a composite-built gunboat during the early 1880s. The weapon is a 68-pounder rifled muzzle-loader (RML), one of the guns most commonly mounted in gunboats of the time. By the mid-1880s, though, they were replaced by more modern breech-loading guns.

The crew of HMS *Kingfisher* manning their guns. *Kingfisher* was an Osprey- class sloop, built in Sheerness, and powerfully armed with two 7-inch and four 64-pounder RMLS. She remained in service until 1892, when she was paid off, renamed and reduced to harbour service.

During the 1880s the Navy gradually replaced the RMLs on any surviving sloops, gunvessels and gunboats with breech-loaders of the kind described previously. In newly-built ships, the BL guns tended to be mounted as broadside weapons, capable of firing to one beam or the other. In these cases, two smaller BL weapons would replace a single larger and heavier RML. Throughout the era, many vessels in the gunboat fleet were fitted with a secondary armament for use at close range. At first these took the form of 24-pounder howitzers or 20-pounder Armstrong RBLs, which had a limited potency and range (3,400yds in the case of the 20-pounders). These were eventually replaced by small 3-inch and 4-inch BL guns when the ships were refitted with more modern guns. Finally, from the mid-1880s on, gunboats were fitted with machine guns. At first these were 10-barrel 0.45-inch Nordenfeldts, but eventually these would be replaced by the far more effective Maxim machine gun.

In fact a number of sloops and gunboats remained in commission for several more years. Some would even play a minor part in World War I. After all, ten sloops and five gunboats were still on active service in August 1914, mostly in African waters or the Persian Gulf while many others served as tenders or helped to fill the Navy's growing wartime need for floating offices, stores and barracks. The last two active gunboats, both of the Bramble class, were finally disposed of in 1926. For almost five decades, the gunboat had been at the heart of British global strategy. These small ships had helped bind together an empire, and had successfully served as the world's policemen. They were very potent symbols of the Victorian age, and so it is hardly surprising that after the passing of Queen Victoria herself, the gunboat faded away too. Today, the memory of them remains, inextricably entwined with that vanished era.

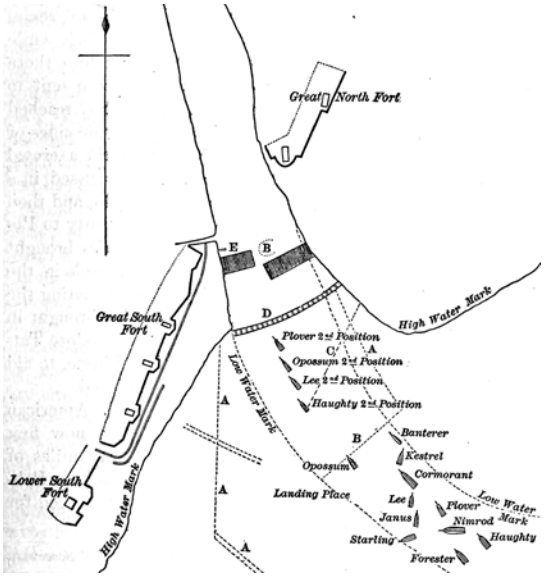
GUNBOATS IN ACTION

The gunboats described here remained a fixture of the Victorian and Edwardian Navy for half a century. During that time they were called upon to perform a huge range of missions. Many of these were carried out far from established centres of British naval power. This meant the gunboat commanders had, by necessity, to rely on their initiative, even when they were placed in situations which their naval training had never prepared them for. It would be impossible to describe all of these. In 1861 alone there were 21 demands for the services of a gunboat, most of which came from the Foreign Office in London, but also from local colonial governors or consuls, British merchants and, in one case, even the British Museum, where a vessel was sent to the Libyan coast to assist in the transport of Greek antiquities. In most cases the Admiralty complied by sending a gunboat to deal with the situation.

These missions in 1861 ranged from dealing with wreckers in the Bahamas, the protection of British subjects in Panama, operations against a West African king, the subduing of the Zanzibari slavers, the pacification of troublesome native people in the Fiji islands and the protection of British trading ships on the River Congo. Contemporary Admiralty records show that similar requests were made throughout the gunboat era. A closer look at some of these gives us a better understanding of just what these gunboats and their crews were called upon to do.

In 1860, the Clown-class gunboat *Kestrel* and the Intrepid-class gunvessel *Pioneer* saw action against the Taeping rebels, who were attacking the garrison treaty port of Shanghai. Shelling from the two warships helped the Chinese Imperial troops drive back the rebels and so save the city. This started an informal alliance with the Chinese government, and in 1862, after the Albacore-class gunboat *Flamer* destroyed 300 boatloads of Taeping supplies near Ningpo (Ningbo), she and her sister *Hardy*, accompanied

A 7-inch (4.5-ton) rifled muzzle-loader (RML), the most powerful gun mounted in Victorian gunboats before the return to breech-loading guns in the early 1880s. Although powerful, the drawback with this gun was its relatively slow rate of fire – around eight minutes.



25 June 1859 was a black day for the gunboat fleet. Led by Rear-Admiral Hope it rashly attempted to force a passage up the Peiho River, which led to Peking. Instead it was stopped short by the guns of the Taku Forts, and both *Kestrel* and *Plover* were sunk. The attack was eventually called off amid mounting casualties.

by the Vigilant-class gunvessel *Ringdove*, helped the Imperial army recapture the rebel-held port. In later actions, naval brigades were landed in support of the Imperial army in the region. The following year, the Vigilant-class gunvessel *Coquette* and the Cormorant-class *Racehorse*, together with the Albacore-class gunboat *Havock*, all took part in the bombardment of Kagoshima in Japan – the engagement which highlighted the inherent safety problems of Armstrong breech-loading guns. Rather than a demonstration of the guns' effectiveness, the action was peppered by mishaps, as 21 of the guns malfunctioned, with most bursting their barrels, or blowing out their vents. This led the Admiralty to abandon breech-loaders in favour of what it saw as more reliable muzzle-loaders. Breech-loaders would remain out of favour for another 15 years.

The demands on gunboats were many and varied during this period. For instance, in 1864 a rising against Jamaica sugar plantation owners saw the Cheerful-class gunboat *Onyx* sent to the Morant Bay, in the south-east of the island. Shells were fired to disperse a mob burning an estate, and then a landing force was sent ashore to establish order. The gunboat's commander Lieutenant Brand tried and hanged 122 rioters, including four women, and flogged 33 more. He was later censured by the Admiralty for his heavy-handedness in an effort to end the huge public outcry his actions caused in Britain. After all, as Jamaicans, the rioters were all British subjects. In his defence, the lieutenant, in his early 20s, had been placed in a situation that he was untrained to deal with. This was typical of the type of unexpected challenge that gunboat commanders could face in foreign stations.

Jumping forward to 1873, gunboats were requested to help deal with a situation in Malaya, where rival armed Chinese factions were vying for economic control of the Perak region. The Beacon-class gunvessel *Midge* was sent to the area and captured several Chinese junks. Then, in September, her commander led a small boat reconnaissance up the Larut River, where his

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Bombarding the Sultan's Palace, Zanzibar, 1896

The bombardment of Zanzibar was something of a last hurrah for the Victorian gunboat fleet. It was also the one action of the Anglo–Zanzibar War, the shortest-lived war in recorded history. When the pro-British Sultan of Zanzibar died on 25 August, a royal successor appointed himself without seeking the permission of the British consul. This was one of the key conditions of a treaty between the island state and the British government. Sultan Khalid was given an ultimatum to step down, and a British naval force entered the East African port, commanded by Rear-Admiral Rawson. He had two cruisers (*St George* and *Philomel*) and a torpedo cruiser (*Racoon*) at his disposal, as well as the Redbreast-class gunboat *Thrush*. When the ultimatum expired at 9am, Seymour gave the order to open fire.

The first shot fired by one of *Thrush's* 4in quick-firing guns knocked out a Zanzibari 12-pdr gun. She and the other British warships pounded the Sultan's palace and harem, and tore apart the makeshift Zanzibari defences. When the Sultan's armed yacht *Glasgow* – a present from Queen Victoria – opened fire on Rawson's flagship, Lieutenant Stoddard, commanding *Thrush*, turned his guns on her. She was quickly sunk, and before the action finished, Stoddard's men went on two sink two Zanzibari launches that were firing at them. The whole action lasted 45 minutes. This shows *Thrush* in action that morning, engaging the palace to starboard before she switched her fire to the *Glasgow*, which was lying off her port beam.

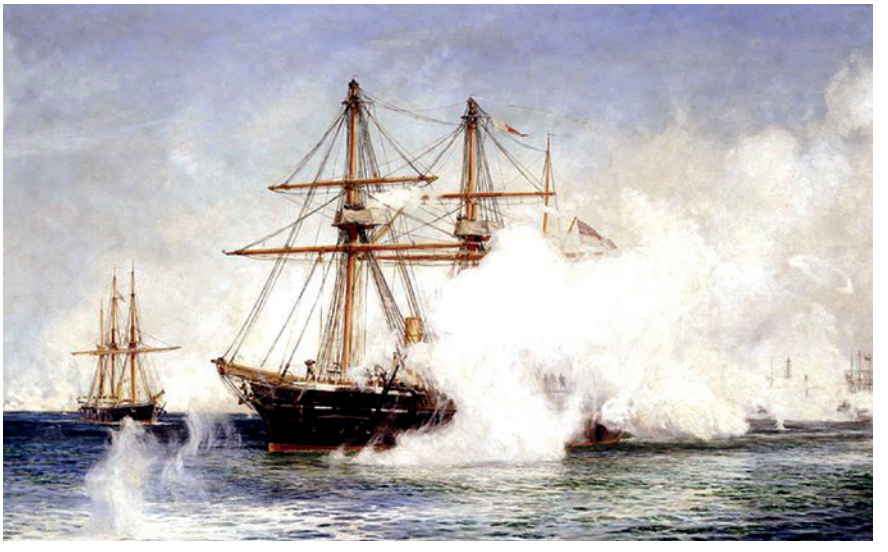
A popular depiction of the sloop HMS *Condor* in action against Fort Marabût during the bombardment of Alexandria in July 1882. The sloop's guns quickly overpowered the Egyptian-held fort. As a result of this plucky action, her commander Lord Charles Beresford was idolised by the Victorian press.

men came under fire from a stockade. Commander Grant withdrew, but returned with the *Midge* and used her guns to destroy the fortification. A landing party captured it, destroyed guns they found there, and burned three Chinese junks belonging to one of the factions anchored a mile beyond the stockade. Incidentally, two weeks later *Midge's* sister *Avon* was in action nearby, protecting local fishermen from an attack by six Malay pirate prahus (large canoes).

Simultaneously in West Africa, 60,000 Ashanti warriors had attacked the protectorate of the Cape Coast. The Ariel-class gunboats *Decoy* and *Merlin* were tasked with defending Cape Coast Castle and nearby Elmina. Virtually everyone was sent ashore in a landing party, which remained there for five months until General Wolseley and the army arrived to relieve them and then pursue and defeat the Ashanti. Two years later, in a near repeat of the *Midge* operation, after British trading ships were attacked on the River Congo the Ariel-class gunboats (*Ariel, Foam* and *Merlin*) were sent upriver on a punitive retaliatory raid. After being shot at from the banks, their crews landed and burned the nearby village where the pirates were based. The only real casualties came from yellow fever rather than pirate bullets. This kind of incident was repeated numerous times during this period

The gunboat fleet also played a part in larger colonial operations. For example, in 1883 during the war in the Sudan, the Red Sea port of Suakin was besieged by the Mahdists. The Algerine-class gunvessel *Ranger* was sent to bolster the port's defences. Her guns and landing parties help repel two Arab attacks, and Suakin held out until reinforcements arrived. Two years later, in March 1885 a naval brigade was formed at Suakin from sailors from five small ships, including the sloop *Dolphin* and the gunvessel *Condor* (both namesakes of their class) and the Ariel-class gunboat *Coquette*. They crewed the Gardner machine guns that accompanied the British force that marched inland from Suakin, only to come under attack from a larger Mahdist force. The sailors distinguished themselves during the ensuing Battle of Tofrek, although their losses were heavy, and included Lieutenant Seymour of the *Dolphin* and six of his men.

By the 1880s, the heyday of the gunboat fleet had passed. This was a period when small independent missions were giving way to larger ones. Where before a locally based gunboat might be sent to deal with a threat, increasingly this was dealt with by a larger force despatched from a regional naval base. Consequently the range of missions declined during the last two decades of the Victorian era, and instead gunboats merely formed part of a larger punitive force. This was the case in 1882, when elements of the British Mediterranean Fleet bombarded Alexandria in Egypt (1882), and again in 1897, when a squadron based in the Indian Ocean was sent to bombard Zanzibar. One of the last actions involving a gunboat was actually after the gunboat age had passed. In September 1914, the Bramble-class gunboat *Dwarf* led the attack on Duala in the German colony of Kamerun (now Cameroon). *Dwarf* drove off a makeshift German gunboat and thwarted an attack by a mine-carrying launch before venturing up the Bimbia River to sink a second German gunboat. It was a spirited end to a long and colourful era in naval history.



HMS *Condor* at the bombardment of Alexandria, 1882, a detail of a copy of a contemporary painting by William Wylie. Before the action, the sloop's upper masts, yards and rigging were stowed below to reduce the risk of battle damage.

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Glossary

Ordnance abbreviations

SML	Smoothbore Muzzle-Loader
RBL	Rifled Breech-Loader
RML	Rifled Muzzle-Loader
BL	Breech-Loader
QF	Quick-Firer